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ABSTRACT

The study evaluated the System of Multicultural Pluralistic Assessment (SOMPA), an approach to nondiscriminatory assessment, with special emphasis on its impact on educational decisionmaking and on educational planning for exceptional children. Initial chapters focus on the SOMPA's theoretical framework contrasted to traditional assessment approaches, legal issues involved in testing minority children and alternatives for nondiscriminatory assessment, and research on SOMPA and the Adaptive Behavior Inventory for Children. Questions central to the study dealt with SOMPA's internal validity, its impact on placement decisions, and changes in staff utilization resulting from its adoption. Two standardization samples were used to examine SOMPA medical model measures, social system model measures, pluralistic model measures and sociocultural scales as well as educational placement information and profile characterization. Findings suggested that SOMPA models and measures within models were independent, that the SOMPA assisted professionals concerned with the assessment of all children in placing both Anglo and Hispanic students in special education programs, and that shifts in staff utilization were noted. It was concluded that the SOMPA assists professionals in making nonbiased placement decisions for children. Among appended materials are the SOMPA student assessment record form and the SOMPA parent interview record form. (CL)

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# Evaluating the Effects of Implementing the System of Multicultural Pluralistic Assessment

by

Ronda C. Talley

[ Final Report ]

Center for Innovation in Teaching the Handicapped
Indiana University
Bloomington, IN 47401

November 1979

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This work is drawn heavily from the doctoral dissertation of Ronda C. Talley, Indiana University, Bloomington, Indiana, August 1979.

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As with any research endeavor, however, faults with this work remain the sole responsibility of this author.

R. C. T.

Bloomington, Indiana
August 28, 1979

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# CHAPTER I

## INTRODUCTION

The issue of educating handicapped students in most appropriate, least restrictive settings is one of great concern to professionals serving this population. Such concern is not new. Nor is the debate which centers around how this might best be achieved. Most scholars agree that one means for reaching this goal is by assuring that complete, comprehensive evaluation and assessment procedures are used with all students who are referred for possible special education placement. Their concordance in advocating such procedures stems from a variety of concerns.

The Bureau of Education for the Handicapped (BEH), the government agency responsible for enforcing the federal mandate for culturally and racially nondiscriminatory assessment, acknowledges the lack of appropriately validated, unbiased assessment procedures. Yet one of its highest priorities is to assure that every handicapped child receive an "appropriately designed education" which helps the child reach full potential. Public Law 94-142, the Education for All Handicapped Children Act of 1975, is enforced by BEH. The law states:

> . . .testing and evaluation materials and procedures utilized for the purposes of evaluation and placement of handicapped children will be selected and administered so as not to be racially or

> culturally discriminatory. Such materials or procedures shall be provided and administered in the child's native language or mode of communication, unless it is clearly not feasible to do so, and no single procedure shall be the sole criterion for determining an appropriate educational program for a child.
>
> (Public Law 94-142, 89 Stat. 781, p. 9)

Thus, educators and psychologists concerned with the lives of the handicapped, are charged with the responsibility of responding appropriately to these provisions of the Education for All Handicapped Children Act of 1975. However, few multidimensional, culturally and racially nondiscriminatory measures have been developed; those which purport to provide nonbiased assessments are mired in controversy. While recognizing that the measures generally utilized to meet the mandate of P.L. 94-142 have questionable validity, purported bias, and offer a limited, unidimensional perspective, professionals are seeking to respond to the need for racially and culturally nondiscriminatory assessment through the development of new evaluation procedures. The System of Multicultural Pluralistic Assessment (SOMPA) has been proposed as a culturally and racially nondiscriminatory system to fulfill this requirement of the federal law.

Empirical knowledge is needed to determine if the SOMPA assists school personnel in developing comprehensive plans to educate exceptional children in most appropriate, least restrictive envirnoments. If professionals are to respond to the assessment and evaluation criteria set forth in the Education for All Handicapped

Children Act, they must empirically assure the validity of new assessment procedures which are purported to be racially and culturally nondiscriminatory in nature. This was the task of the present study.

## Statement of the Problem

In this study, a new and promising effort at multidimensional, nonbiased assessment, the System of Multicultural Pluralistic Assessment (SOMPA), was evaluated. Particular attention was directed to the SOMPA's impact on educational decision-making and on educational planning for exceptional children. The purpose of the research was to assess the effects of the SOMPA on the educational placement of children referred for special education in the Pueblo, Colorado, schools and by so doing to determine whether use of the SOMPA resulted in racially and culturally nondiscriminatory placement outcomes.

The school district reports that greater numbers of children are remaining in or being rerouted into the mainstream when the SOMPA is utilized as compared to placement patterns based on older, more "traditional" methods of assessment. But what do the numbers mean? On what criteria were children "mainstreamed?" What features of the SOMPA were most influential in formulating placement decisions? Has the proportion of minority children in special education been reduced? Are children who were evaluated using the SOMPA receiving more appropriate services than those offered by the school system before SOMPA's adoption? The present study evaluated the impact of use of the SOMPA

in the Pueblo Public Schools in a manner which would facilitate generalization to other school systems of similar racial and ethnic composition.

## Background of the Study

On December 12, 1974, the Denver Office of Civil Rights (OCR) directed a letter to the superintendent of the Pueblo Public Schools, District #60, which was to change the school system's delivery of service to children with special needs. What had been planned in the early 1970's as a standard compliance review by the OCR had been exacerbated by a complaint received by that office regarding school discipline in District #60. School data which had been stored since the OCR's visit to Pueblo in 1972 were reexamined with concern for their adequacy, and new data were obtained from the district records during a second site visit to Pueblo in 1974. After evaluating that data, the director of the Denver Office of Civil Rights, wrote to the superintendent of the Pueblo District #60 Schools. In this letter, OCR noted that minority students were assigned to classes for the educable mentally retarded (EMR) in disproportionate numbers. Although the total minority high school enrollment constituted 39.8% of the total enrollment, 64.1% of students in EMR classes were from minority groups. At the middle school, 43.6% of the population were from minority groups while 65.6% of the total number of students assigned to EMR classes were from minority groups. Data from the 1972 visit also indicated that students assigned to EMR classes spent virtually all of the school day in special self-contained classrooms.

By examining 712 cumulative records of elementary and secondary students assigned to EMR classes during 1974, OCR also delineated the following points:

1. Some minority EMR children had higher IQ scores than any of the nonminority EMR children and the minority EMR group had a higher mean IQ than the non-minority EMR group. . . Criteria utilized for placement in EMR classes, therefore, were discriminatorily applied to minority children.

2. Non-English language dominant minority EMR children were not diagnosed by procedures conducted in their primary home language. The Wechsler test, for example, was administered in English by English language dominant testers to all EMR children. Of the Spanish-surnamed EMR children, 23.2% achieved a score of 80 or above on the performance scale of the Wechsler and 15.9% of these same children received performance scale scores so much higher than verbal scores that the tester should have suspected a language handicap rather than an intelligence deficiency and should have concluded that the Wechsler test was not valid in these instances. . . . Non-English language dominant children, therefore, were given diagnostic services inferior to those given to English language dominant children and were discriminatorily placed in EMR classes. (Roman, Note 1)

The memo of December 12 represents the first time that the Office of Civil Rights included the measurement of adaptive behavior as a necessary part of comprehensive assessment for minority children. It stated:

> An adaptive behavior assessment should include, but not be limited to such matters as an evaluation of the child's home language skills, an early history of self-help and social behavior, a clinical evaluation of present behavior including the description of the child's assumption of responsibility and development of skill at play activities and at work outside of school, and an evaluation of the child's social maturity in peer relationships within the home and in the community.
>
> (Roman, Note 1)

In specifying comprehensive criteria for the assessment of minority children in the Pueblo District #60 schools, the Office of Civil Rights insisted that evaluation and assessment of minority children within the schools must leave no reasonable doubt regarding the adequacy of a child's program placement.

Upon receiving the citation, District #60 administrators took action. Immediately a stream of correspondence was begun between district personnel and various persons within the Office of Civil Rights. A meeting was scheduled in Washington, D.C., between OCR personnel and District #60 administrators to discuss the most profitable course of action of Pueblo. During this meeting, "Jane Mercer's adaptive behavior scale" was first suggested as one possible

assessment alternative. A series of subsequent verbal exchanges between OCR and Pueblo resulted in a further clarification of statutory references to be used in the formulation of Pueblo's plan for compliance.

After talking with one of the SOMPA's authors, Dr. Jane Mercer, and obtaining information regarding the components of the system, Pueblo District #60 schools became the first SOMPA field test site in the nation. Between November 1975, and June 1977, approximately 600 children were assessed or reassessed using the new system. Global figures indicate that many of these children consequently received special education or other types of supportive assistance in a more finely delineated continuum of services than had previously been available within the public school system. In order to more fully understand the nature of these educational changes for children, the present study was conducted.

Since the SOMPA is a new system of assessment, it is important to place its use within a theoretical framework which compares the nature and outcomes of different types of assessment. A theoretical framework which contrasts "traditional" assessment and SOMPA assessment is presented in the next section. It reflects the central assumption of this study that use of the System of Multicultural Pluralistic Assessment will result in different placement outcomes for children than would the use of more traditional assessment measures. The theoretical girdings for such a hypothesis are now explored.

## Theoretical Framework

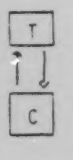
The theoretical framework of the study was based on a referral-to-placement model which assumes differential programming will result from differential assessment. That is, utilization of the System of Multicultural Pluralistic Assessment in evaluating a child would result in different educational outcomes for that child than when a "traditional" type of assessment was conducted. Many professionals (Ashurst & Myers, 1973; Goldstein, Arkell, Ashcroft, Hurley, & Lilly, 1976; Mercer, 1970, 1971a, 1973; Tracy, Gibbins, & Kladder, 1976) have described varying models of the referral-to-placement process. An overall diagrammatic framework of the referral-to-placement process is depicted in Figure 1. In the figure, the functional relationships of professionals concerned with the assessment process are emphasized. The cyclical nature of the process is highlighted, as is the working relationship of each of the participants in this procedure. It is within this model that the SOMPA assessment takes place in Pueblo.

Figure 2 shows that an early step in the referral-to-placement process is the teacher's decision to refer (Keogh, 1972). Usually the decision takes place only after much deliberation, after it has been decided that the child's present level of functioning is inadequate, and after an attempt to work with his/her parents to remediate the perceived deficit. Both subjective data and objective data go into the teacher's decision to refer. These data may include test scores, family background, previous success/failure in school, personality, and physical appearance, just to name a few.

# Figure 1

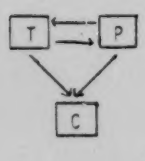
Functional Relationships Between School Personnel, Parents, and Child in the Referral to Placement Process

**Step 1:** Teacher works with child



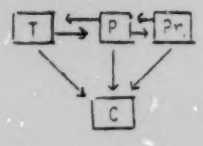

**Step 1 Conclusions:** Present environment not adequate; child needs specialized environment. Proceed to step 2.

**Step 2:** Teacher solicits parental cooperation in working with child



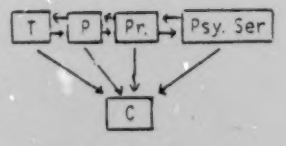

**Step 2 Conclusions:** Environmental adjustment insufficient: additional cooperation sought. Proceed to step 3.

**Step 3:** Teacher solicits principal's cooperation in working with child; parental cooperation still requested



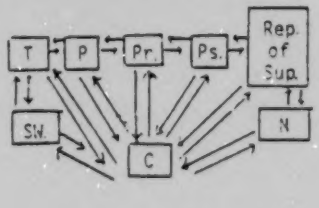

**Step 3 Conclusions:** Additional cooperation and environmental adjustment insufficient; need additional information i.e. referral initiated. Proceed to step 4.

**Step 4:** Teacher, parent, and principal request help of psychological services to aid in working with child



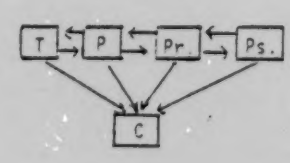

**Step 4 Conclusions:** Additional information collected; need coordination and integration of findings. Proceed to step 5.

**Step 5:** Teacher, parent, principal, psychological services, and psychologist request opinion of superintendent's representative and of child in planning educational intervention



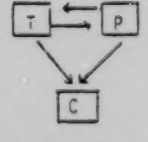

**Step 5 Conclusions:** Information integrated in staffing; Recommendations made for most appropriate educational environment. Proceed to step 6.

**Step 6:** Teacher, Parent Principal, and School Psychologist implement recommendations from staffing; follow-up maintained.




**Step 6 Conclusions:** Recommendations appropriate, continue to step 7; Recommendations inappropriate, return to step 4 and proceed.

**Step 7:** Teacher and parent coordinate efforts; child is taught in individually appropriate manner.



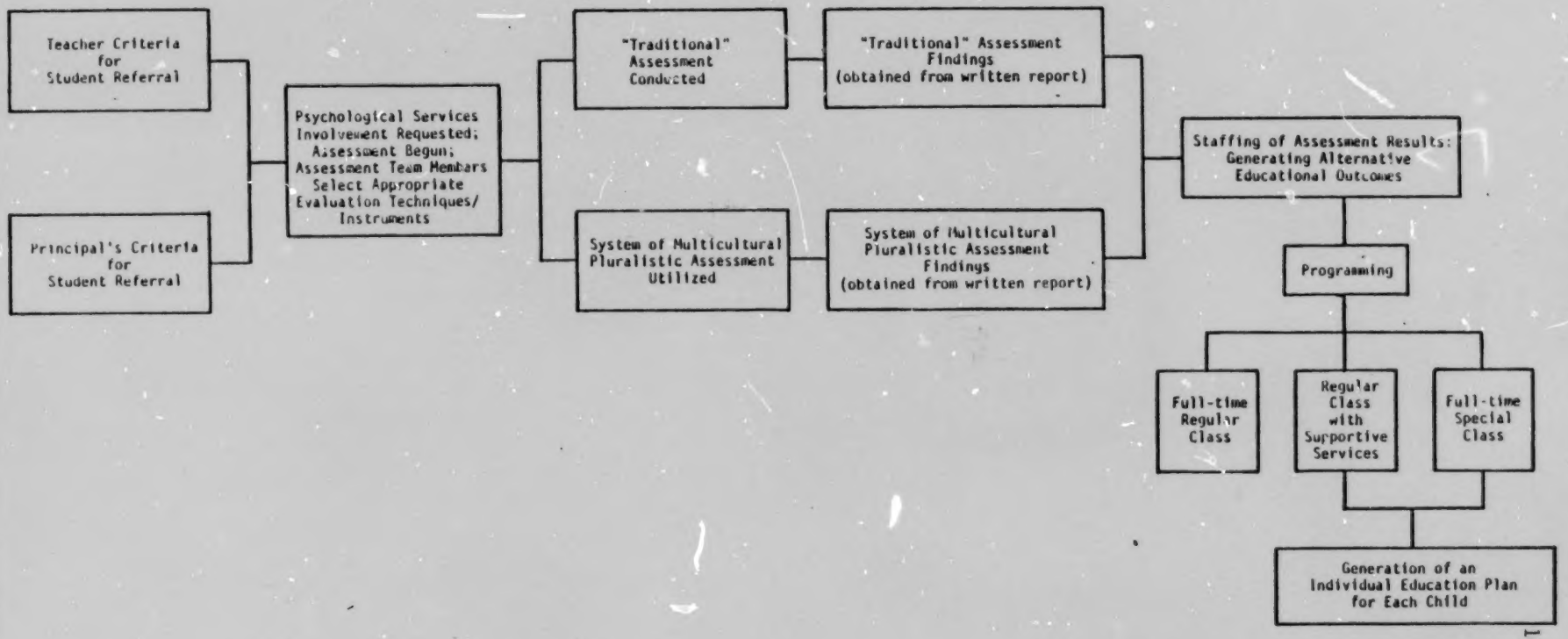

**Step 7 Conclusions:** Child succeeding in appropriately coordinated educational environment.

Key: C = Child
T = Teacher
P = Parent
Pr. = Principal
Ps. = Psychologist

Psy. Ser. = Psychological Services
Rep of Sup. = Representative of Superintendent
S W = Social Worker
N = School Nurse

Figure 2

"Traditional" Assessment versus the System of Multicultural Pluralistic Assessment: Factors Relating to and Steps in the Referral-to-Placement Process


Teacher Criteria for Student Referral
Principal's Criteria for Student Referral
Psychological Services Involvement Requested; Assessment Begun; Assessment Team Members Select Appropriate Evaluation Techniques/ Instruments
"Traditional" Assessment Conducted
System of Multicultural Pluralistic Assessment Utilized
"Traditional" Assessment Findings (obtained from written report)
System of Multicultural Pluralistic Assessment Findings (obtained from written report)
Staffing of Assessment Results: Generating Alternative Educational Outcomes
Programming
Full-time Regular Class
Regular Class with Supportive Services
Full-time Special Class
Generation of an Individual Education Plan for Each Child

This step in the referral-to-placement process occurs after parental cooperation has been sought by the school and after the environmental adjustments which had been made within the local school have proved insufficient. At this point, the principal receives a formal request for psychological evaluation of the child from the teacher. The principal may either veto such a request or approve it, thus passing it on to the psychological services team leader (who is often the only psychologist in the district).

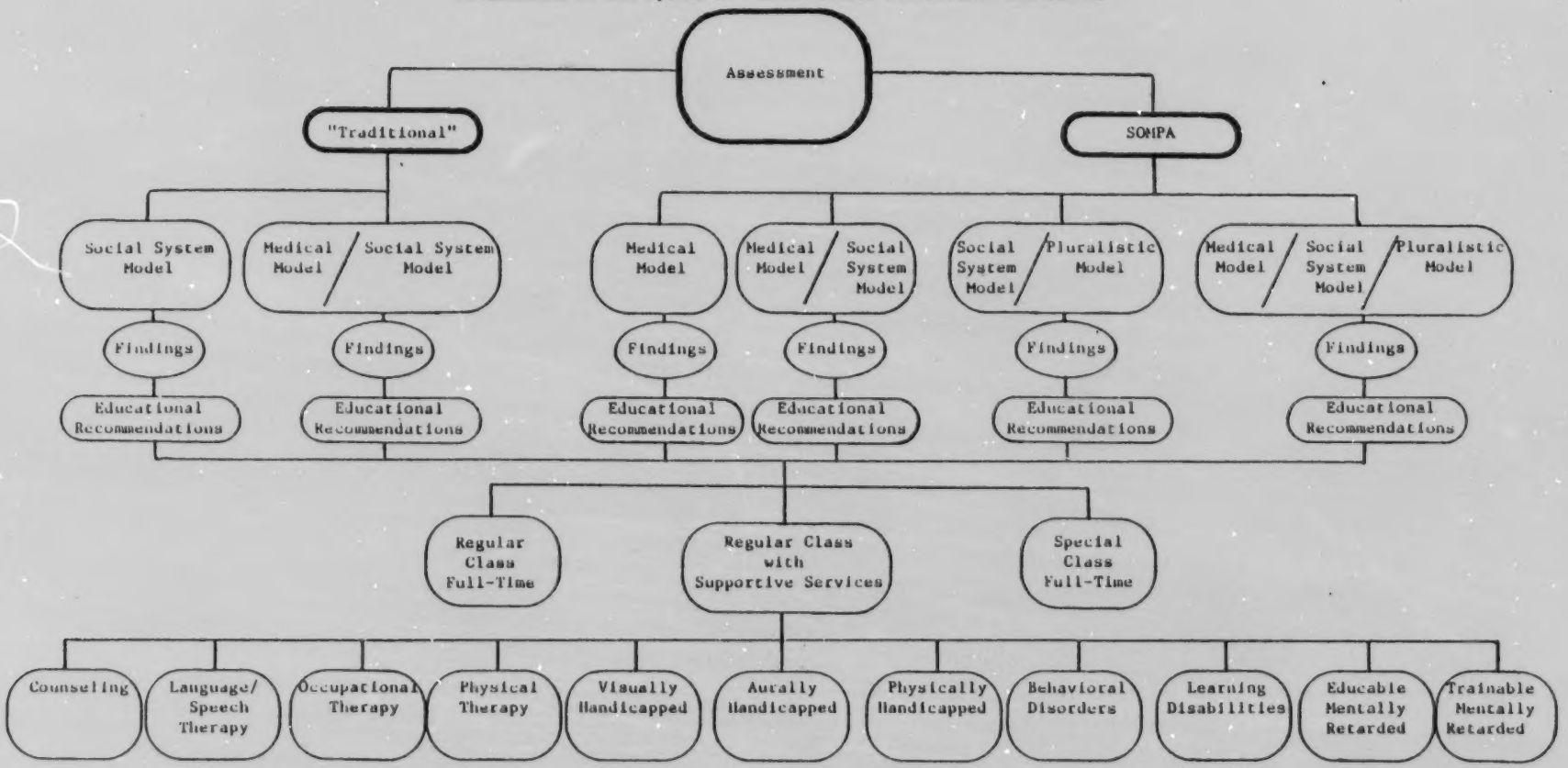
Since the school psychologist does not usually have time to administer an individual intelligence test to every child who is referred for evaluation (Mercer, 1973b), it is at this point in the referral-to-placement process that the psychologist decides whether the referral warrants testing or whether consultation with the teacher is deemed to be more appropriate. If the decision is made to test the child, then the psychologist is faced with what is potentially the most important decision to be made in the process: the type of assessment to conduct. It is the assumption of this study that the type of assessment used by a school psychologist or any other assessment personnel with a single child will significantly affect the eventual placement decision made concerning that child. This means that the educational placement of the child rests heavily on the philosophical underpinnings of assessment instruments and procedures as well as on the assessor's sensitivity in interpreting results in a manner which takes into consideration the child's racial and cultural characteristics.

Once the assessment has actually been conducted, a meeting of persons concerned with the assessment results is held. It is at that time that the placement and programming options for the individual child are explored. It is hypothesized that information obtained from a SOMPA evaluation and shared at the staffing will result in more appropriate programming for children than would information obtained from the traditional battery of instruments.

In Figure 3, the possible outcomes of such a comparison are presented. When the "traditional" assessment is conducted, typically only a Social System measure, the Wechsler Intelligence Scale for Children - Revised (WISC-R), and often a Medical Model measure, the Bender Visual Motor Gestalt Test, are administered. However, when the SOMPA is administered, Medical Model information on Physical Dexterity Tasks, the Bender Visual Motor Gestalt Test, hearing, vision, weight, height, and the Health History Inventories is collected. Additionally, Social System information is obtained through use of the WISC-R and the Adaptive Behavior Inventory for Children. Pluralistic Model information regarding the child's Estimated Learning Potential (ELP) when compared to his sociocultural peers is presented. In the SOMPA, all of these types of data are used to aid professionals in determining the most appropriate placement alternatives for the student. Special education and supportive services offered by the Pueblo District #60 schools are presented as the placement options in Figure 3.

Figure 3

Placement Outcomes Resulting from Utilization of "Traditional" Assessment versus Utilization of the System of Multicultural Pluralistic Assessment



In order to understand the use of the SOMPA in this referral-to-placement paradigm, it is important to examine the theoretical and philosophical framework upon which the SOMPA was built. Such a framework could not only affect the way data on children is collected, but it could also impact on the types of data obtained as well as on their interpretations. Given these considerations, the theoretical framework of the SOMPA, which is based on a model of structural-cultural pluralism, needs to be explored. For comparative purposes, the societal foundation for traditional assessment, Anglo conformity, will also be delineated. These two views of assessment and society are presented next.

Two Views of American Society and Their Impact on Assessment

Historically, little attention has been paid to the differences between "traditional" assessment and multicultural assessment (Mercer, 1973a). Traditional assessment procedures which may be selected for use are based on the implicit, unstated assumptions of the "melting pot" theory of Anglicization. To understand the current need for clarification of these two views and their impact on assessment, the reader should note that in practical application, one of two distinct policies is followed, either implicitly or explicitly, by the American citizenry: the policy of Anglo conformity or that of structural-cultural pluralism. This discussion deals with these implicit models of society, their supporting ideologies and value premises as well as their consequences for both assessment and children.

Since the first explorers landed on the North American continent and established colonies, the concepts of "sameness" and "difference" as seen from the perspectives of persons from diverse nationalities were tacitly noted. Those who longed for the advantages of "sameness," i.e., the common language, culture, and values, set up the common schools to pass along such knowledge. Schools were to serve as a means for educating the poor immigrant children, the eastern and southern European, toward the ways of the Anglo-Saxon colonial majority. It was with this process that the philosophy of the Anglo conformity was perpetuated. The concept of Anglo conformity was to permeate the American system of public education well into the mid 1900's.

The model of structural-cultural pluralism was born in several stages. The period from 1830 to 1910 during which non-Anglo and non-Prostestant groups had to defend their cultures against Anglo conformity was called the era of "defensive pluralism" (Havighurst, 1978). It was at this time that the Catholic church in America created its parish schools as a response to the insistence of public school authorities that Catholic students must read from the King James version of the Bible; a student had been severely beaten for refusing to do so. The child's parents had subsequently sued the school for maltreatment and lost. To protest this and other actions of the public school, the Catholic Church began parish schools.

At the beginning of the twentieth century, the "melting pot" theory was developed. It reflected the concept popular at the time that each nationality had its own set of genetic, psychological

characteristics. Sociologists of the time stated that immigrants from eastern and southern Europe were inferior and potentially dangerous persons in society.

"Laissez-faire pluralism" persisted from 1920-1970. It was during this period that American scholars became increasingly receptive to the view that the social environment and the family in particular were the primary determinants of human mental and personal characteristics. The topic began to gain popularity in the 1960's under the title of "intergroup relations." Havighurst stated implications of this philosophy for America's children:

> The values, social attitudes and life styles of people are learned as children, first through the family and later through the school, church and neighborhood. The family values and ways of rearing children are parts of families' social class cultures and ethnic cultures. In order to understand why children of different social classes and ethnic groups display group differences of personality and behavior, it is important to study the child-rearing practices of families. (1978, p. 9)

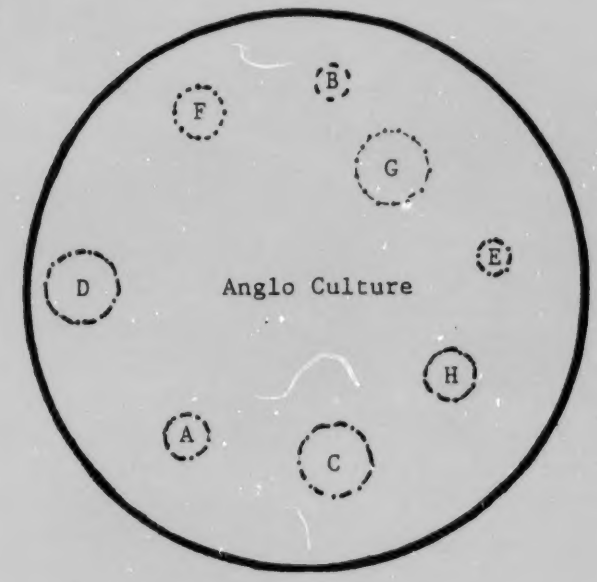
It was during this time that the need for considering externally-based factors when assessing a child first came clearly into focus.

The two models of ethnic group relations in American society are presented in Figure 4. In the figure, cultural/ethnic subgroups are represented in small broken circles within the larger continuous circle representing the dominant Anglo culture. The top portion of the figure presents an Anglo conformity model while the lower one portrays

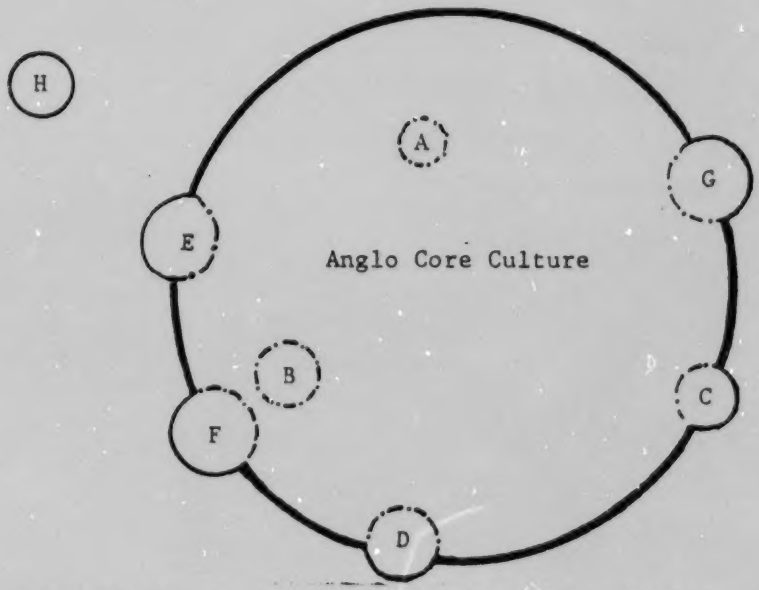
Figure 4

Two Models of Ethnic Group Relations in American Society

A: Model of Anglo Conformity




B: Model of Structural and Cultural Pluralism




Note: From The System of Multicultural Pluralistic Assessment: Conceptual and Technical Manual by J. R. Mercer, 1979b, p. 6. Copyright © 1979 by The Psychological Corporation. Reprinted by permission. All rights reserved.

the model of structural and cultural pluralism. Note that in the Anglo conformity model, all subgroups are seen as being structurally contained within the larger society with little or no retention of cultural identity. In the structural and cultural pluralism model some subgroups (A, B) are both structurally and culturally integrated within the Anglo culture, some subgroups (C, D, E, F, G) are culturally integrated but structurally discrete, and another subgroup (H) is both culturally and structurally separate. Children from both models in subgroups A and B would be similar culturally (similar language, social patterns, etc.) as well as living in integrated neighborhoods. In the pluralistic model, children in subgroups C, D, E, F, and G are culturally integrated, that is, they share the culture of the Anglo majority while also maintaining that of their own ethnic group. They live in separate ethnicly identifiable neighborhoods. Persons in subgroup H are monocultural and monolinguistic; they speak only their native tongue and remain in separately structured neighborhoods such as the barrio.

Different life patterns are associated with each of these models of American society. The Anglo conformity model is based on the supporting ideology of Anglicization while the structural-cultural pluralism model is based on cultural democracy. As mentioned earlier, each of these models has specific values premises, consequences for testing, and consequences for children who are reared under its parameters.

The Anglo conformity model is based on assumptions of English language superiority and is geared toward the perpetuation of a public school system which graduates monolingual, monocognitive, and monocultural students. Test procedures based on the Anglo conformity model utilize a single set of norms, use Anglo-specific test content, define test validity as the ability to predict academic performance, and interpret prognostic measures as providing diagnostic information. When the Anglicization model is employed, consequences for children are dramatic. Anglo-specific testing procedures restrict educational opportunities for non-Anglo children, produce stigmatizing labels for a disproportionate number of minority children, focus on the student role in the school while excluding other role functions, and devalue the cultural heritage of children from differing backgrounds. The use of such a model when assessing children, especially children of minority ethnic backgrounds, has been soundly critized by members of the professional community (Fueyo, 1977; Gerry, 1973) and is recognized as a source of concern for parents (Mercer, 1971b).

Conversely, cultural democracy allows value to be attributed to both non-Anglo and Anglo students. All languages and cultures are regarded as of equivalent worth. A focus of schools operated under the cultural democracy model is to perpetuate the education of bicultural, bicognitive, bilingual children through diverse educational offerings. Tests are treated as measures of learned behavior, multiple normative frameworks are used (and geared to the specific sociocultural characteristics of the child), and test content is multicultural.

Cultural democracy encourages a valuation of all children and a positive consideration of their personal as well as sociocultural characteristics.

Although other consequences for children which result from use of the cultural democracy have only been hypothesized at this time, Mercer (1979b) suggested that improved educational choices for children would result. Under such a framework, non-Anglo students would not be any more likely to be placed in special education classes than would Anglo students, educational options for all students would be expanded, non-Anglo students' cultures would be appreciated, and multicultural development would be fostered.

To summarize, the ideology of Anglicization perpetuates the superiority of the English language and culture, devalues non-Anglo cultures, offers few options for the culturally different population, and takes as its central educational goal the continued production of a monocultural, English-speaking, Anglicized child. In contrast, the cultural democracy ideology supports the total development of students from diverse sociocultural backgrounds, the expansion of educational options, and the fostering of multilingual, multicultural students. It was to facilitate the assessment and placement of children in such a multicultural society that the System of Multicultural Pluralistic Assessment was developed.

The SOMPA as an Assessment Alternative in a Culturally Diverse Society

The development of a "pluralistic, multicultural assessment" system by Mercer and Lewis provided a potential answer to the quest for

an unbiased assessment system. Mercer and Lewis' alternative, formally called the System of Multicultural Pluralistic Assessment (SOMPA), derives its theoretical foundations from three distinct theoretical perspectives. To obtain a well-rounded view of the child, it is necessary to assess his/her abilities in three divergent manners: using Medical Model criteria, Social System Model criteria, and Pluralistic Model criteria. Mercer and Lewis' efforts toward racially and culturally nondiscriminatory assessment have culminated in the SOMPA. Such a system at last makes pluralistic assessment not just a legislative mandate, but also an achievable reality in the public schools (Mercer, 1974).

Philosophical Bases of the SOMPA

The SOMPA is administered in two parts: through a parent interview and a child evaluation session. Within the SOMPA, there are specific measures for evaluating each child according to assumptions of: (a) the Medical Model, (b) the Social System Model, and (c) the Pluralistic Model.

The Medical Model. When using the Medical Model, an approach also advocated by Kauffman and Hallahan (1974), one defines "abnormal" as the presence of biological pathology. Assumptions of the model are that pathology is caused by a biological condition and that sociocultural factors are not relevant to diagnosis or treatment. This is a deficit model and is not culture bound. Measures within the SOMPA which fit the Medical Model's assumptions are the Bender Gestalt Visual Motor Test, the Physical Dexterity Tasks, the Health History

Inventories, the Weight-by-Height Ratio, Visual Acuity (including better monocular acuity), and Auditory Acuity. These measures and their respective subscales are presented in Figure 5.

The Social System Model. Within the Social System Model, "abnormal" is defined as social deviance, behavior which violates the social system norms. Normal is then viewed as behavior which meets the expectations of the social system in which it is exhibited. Assumptions of the Social System Model are that there are multiple definitions of normalcy and that there are different norms for each role in each social system. These norms are not determined by biology, but rather are determined by a political process.

Measures within the SOMPA to assess such role-specific behavior are the Adaptive Behavior Inventory for Children (ABIC) and the Wechsler Intelligence Scale for Children - Revised. Subscales of the ABIC tap adaptive behavior in the family and community, in peer relations, in non-academic school roles, in the earner/consumer role, and in self-maintenance activities. These measures may be seen in Figure 6.

The Pluralistic Model. The Pluralistic Model's definition of "abnormal" is essentially a statistical one. It states that a child is subnormal when s/he receives low scores on an assessment instrument in comparison to his/her own sociocultural group. Basic assumptions of the model are that all achievement and intelligence tests measure learning, that sociocultural background affects opportunity and motivation to learn, that all sociocultural groups have the same

Figure 5

Medical Model Measure in the SOMPA

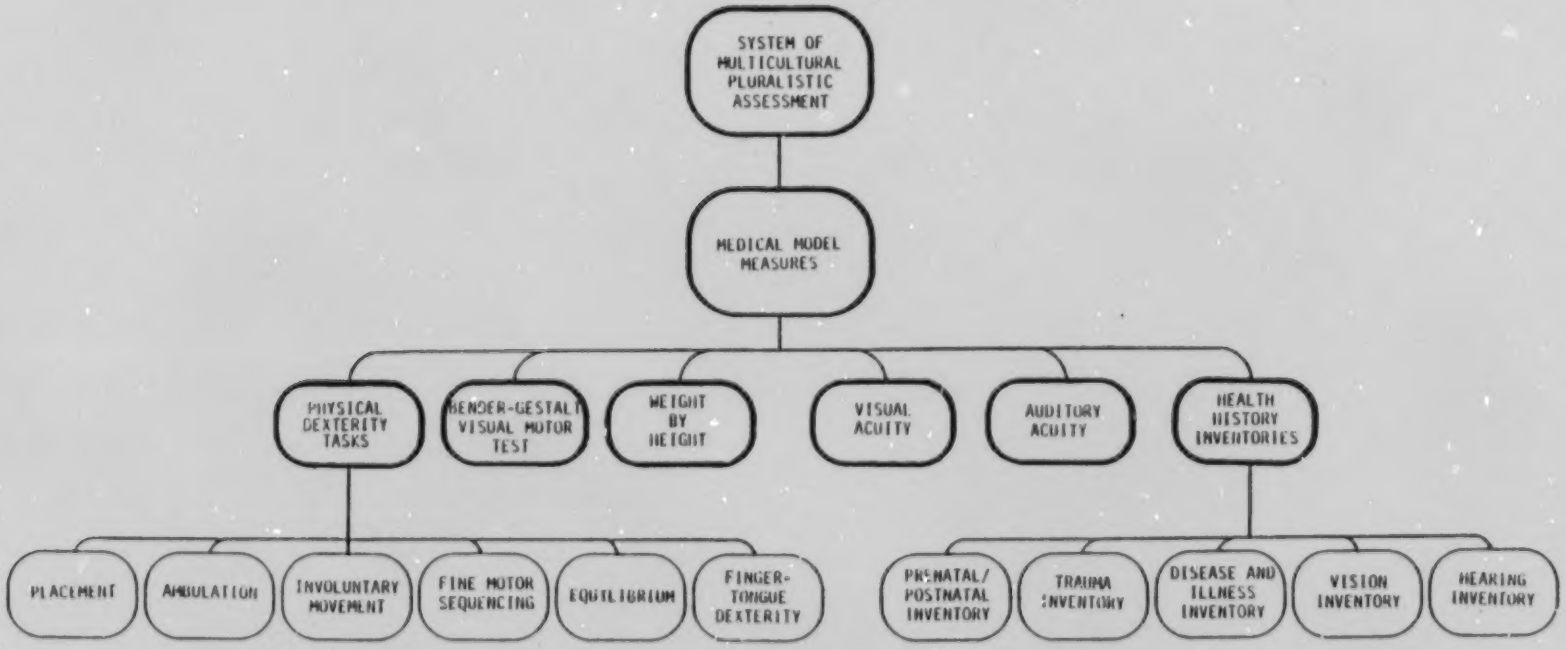
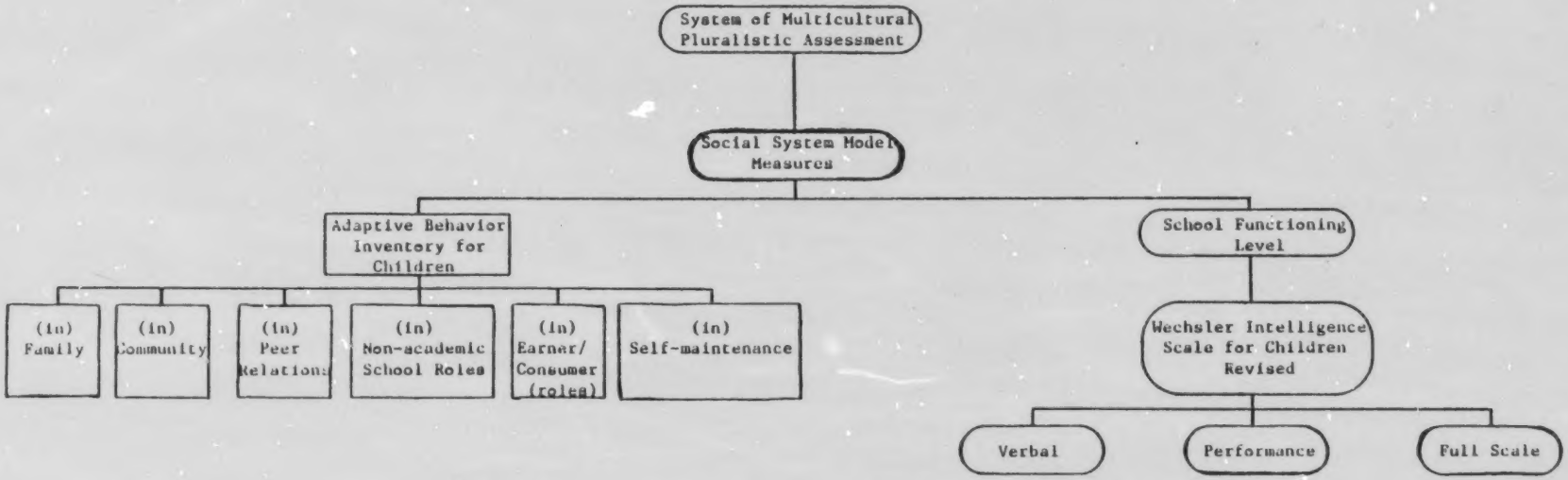


Figure 6

Social System Model Measures in the SOMPA



biological potential for learning, and that to estimate potential, one must compare the child with others who have had similar motivational and learning opportunities.

The SOMPA utilizes the Wechsler Intelligence Scale for Children - Revised (WISC-R) with sociocultural indices to form pluralistic norms in calculating a child's "estimated learning potential." Figure 7 provides an overview of the pluralistic model components of the SOMPA. Administration procedures for each of the measures within the three models are outlined in The System of Multicultural Pluralistic Assessment: Parent Interview Manual (1977) and in The System of Multicultural Pluralistic Assessment: Student Assessment Manual (1978).

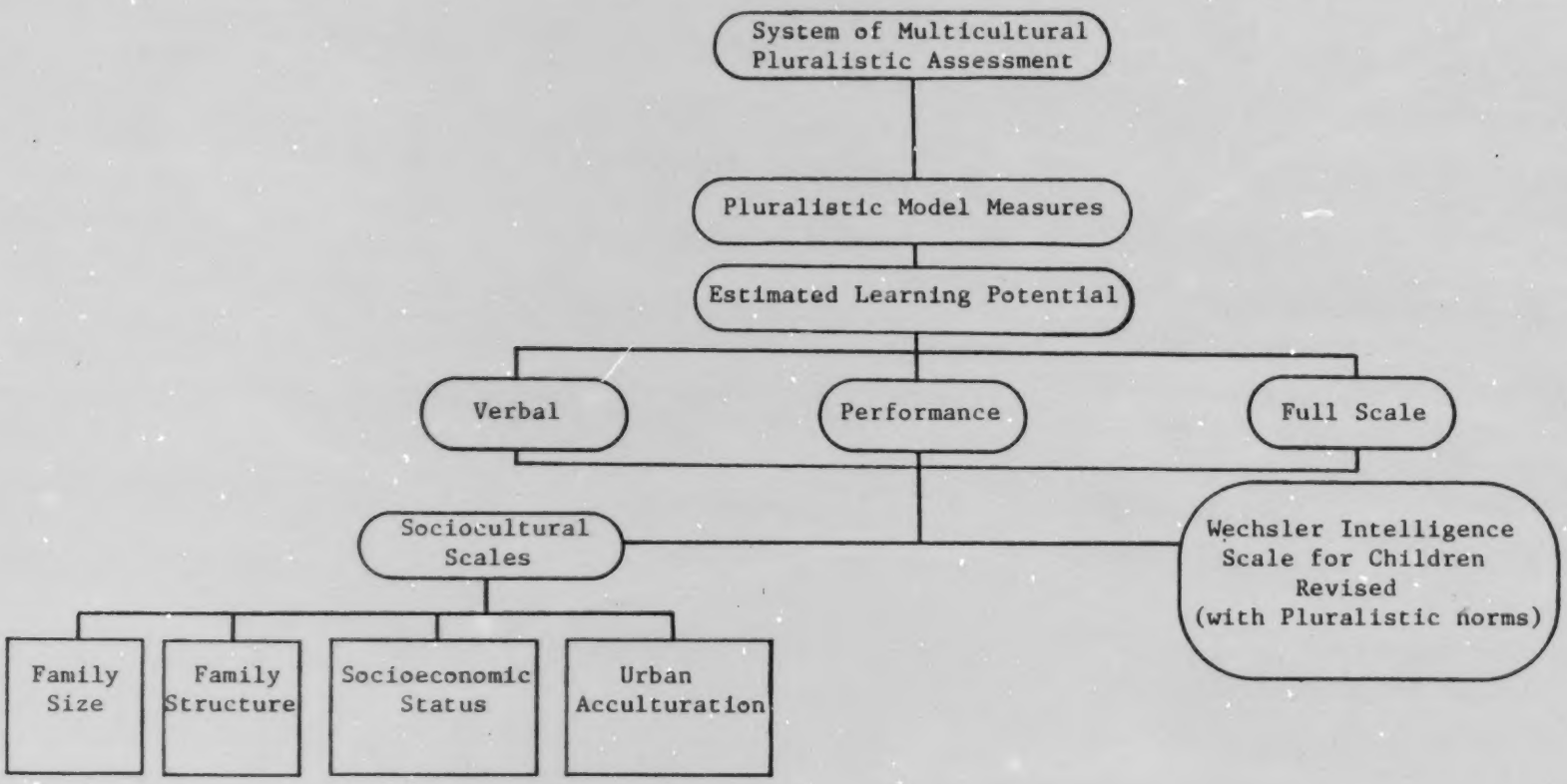
Several persons have advocated Mercer and Lewis' SOMPA (Aliotti, 1977; Hunt, 1972; Myers, Sundstrom, & Yoshida, 1974) while others (MacMillan, 1977) reserve judgment on the system until research unravels some answers regarding the system's effect. Weintraub (1975) stated:

> We have allowed ourselves to aid the educational system avoid its responsibility to offer children the wide range of services needed. . . . We have accepted many children into special classes for the lack of an alternative. . . . Those concerned with the identification and placement of handicapped children can settle for no less than what is appropriate. (p. 72)

Does the SOMPA aid professionals in identifying the needs of exceptional children so that an appropriate placement along the

Figure 7

Pluralistic Model Measures in the SOMPA



continuum of special and supportive services may be provided? It is to this issue that the present research was addressed.

## Organization of the Study

Chapter I of this study dealt with the major issues in culturally nondiscriminatory assessment and the rationale for studying the System of Multicultural Pluralistic Assessment's ability to serve as a nonbiased assessment instrument. The theoretical implications of traditional assessment and the SOMPA were explored.

In Chapter II, legal issues surrounding the testing of minority children and alternatives for culturally and racially nondiscriminatory assessment will be explored. Previous research on the SOMPA is also presented. The questions to be explored in the study are presented in Chapter III.

The method for executing the study will be outlined in Chapter IV, followed by a presentation of results and discussion in Chapter V. In Chapter VI, a summary of the study will be presented and findings of the study will be linked to implications for future research.

# CHAPTER II

## REVIEW OF THE LITERATURE

Literature related to education of the handicapped is expansive. Therefore, in order to clearly address the issues of the present study, three significant areas dealing with the assessment of students will be discussed in this chapter. First, legislation and litigation which affects the provision of educational services for the handicapped will be reviewed. Legal action which has influenced the movement toward culturally and racially nondiscriminatory assessment is highlighted. The second area to be explored is proposed alternatives for nondiscriminatory assessment and the degree of success with which each has been credited in meeting this goal. Lastly, the results of research conducted to date on the System of Multicultural Pluralistic Assessment will be presented.

### History of Educational Legislation and Litigation: The Road to P.L. 94-142

Any discussion of education for the handicapped in the American public school system should be couched within the context of the mandated acts or events which have shaped its development. In this section of the literature review, major legislative works and litigation pertaining to the assessment and education of students with special needs will be addressed. A general summary of relevant legislative acts will be followed by a chronological presentation of events which have mitigated or otherwise influenced their impact.

A Historical Perspective on American Educational Legislation

Although it is noted that education is a state activity since it was not expressedly mentioned in either the United States Constitution or the Bill of Rights, this is not to say that the federal govenment lacked concern or interest in educating its citizens. As early as 1785, the Continental Congress decreed that "there shall be reserved in the lot No. 16 of every township for the maintenance of public schools, within said township" (Johnston, cited in Lapati, 1975, p. 14). Thus, land was reserved for school buildings. The Ordinance of 1787, which established the Northwest Territory, also prcvided that "Religion, morality, and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged" (Maritain, cited in Lapati, 1975, p. 14).

Although legislation to enact a constitutional amendment affecting education has been proposed over twenty times, it has never passed the U. S. Congress. Rather, the Congress has chosen to pass bills targeted toward specific needs. For example, during the 1950's and 1960's, several wartime measures were passed to aid communities in providing education. The Lanham Act of 1941 allowed an estimated $187 million to be spent on programs for school construction, maintenance, and child care. Public Law 815, which allowed for school construction, and Public Law 874, which provided funds to cover school operating expenses, were passed to give relief for a nation distressed by the Korean War. The latter two laws, known as the "impact laws," were to provide bases for sections of the later Elementary and Secondary Education Act of 1965.

Several other important pieces of legislation were passed during subsequent years: the National School Lunch Act (1946), the Agricultural Act of 1949, the Library Services and Construction Act of 1956, and the National Defense Education Act of 1958 (bolstered by the Russian launching of Sputnik). These acts covered topics from the provision of nutrition for children attending schools to the preparation for future national defense.

On the centennial of Lincoln's Emancipation Proclamation, President John F. Kennedy sent a message to Congress on civil rights. Two years later, after Kennedy's death, President Lyndon Johnson signed into law the Civil Rights Act of 1964. One of the major purposes of this act was to accelerate the pace of desegregation in public school districts. The attorney general of the United States was empowered to institute civil action against any district denying a student admission because of race, national origin, religion, or color. This extremely important act, the Civil Rights Act of 1964, and the move for rights of the handicapped are now parallel in American history.

Between Kennedy's message to Congress on civil rights and the Act's passage in 1963, Congress enacted the Mental Retardation Facilities and Community Mental Health Center Construction Act. The legislation was intended as a means of providing assistance to "combat" mental retardation. Title III of the act dealt with the training of teachers of handicapped children, while Title V authorized appropriations for the training of physical education teachers and recreation personnel.

With Kennedy's emphasis on quality education, rights and education for all persons were furthered. He argued for what was to become known as the Elementary and Secondary Education Act of 1965, a bill not passed until President Johnson convened the first White House Conference on Education. The bill was passed that same year. nature, use, and interpretation of testing and evaluation procedures.

The Elementary and Secondary Education Act (ESEA) was designed to improve education through five titles. Title I authorized approximately $1 billion to help local schools strengthen programs for the educationally disadvantaged. Title II authorized $100 million for school library resources and instructional materials. Title III authorized the same amount for supplementary educational centers and services such as mobile libraries and specialized counseling and guidance activities. Title IV supplemented the Cooperative Research Act of 1954 and provided for education research and training. Title V authorized $25 million for grants on a matching basis to upgrade state departments of education. In 1966, ESEA was amended by P.L. 89-750 to add Title VI, the Education of Handicapped Children Act. Title VII for Bilingual Education Programs was added in 1968.

In 1968, Congress passed the Handicapped Children's Early Education Assistance Act to provide preschool and early education programs for handicapped children. The act stressed community cooperation and coordination of service delivery systems to the handicapped. It also emphasized parental involvement in the education of handicapped children.

In 1970, Congress enacted the Education of the Handicapped Act (EHA) which was to become active in 1971. This act replaced Title VI of ESEA and superseded the Handicapped Children's Early Education Assistance Act of 1965, Grants for Teaching in the Education of Handicapped Children (1963), Titles III and IV of the Mental Retardation Facilities and Community Mental Centers Construction Act of 1963, and the 1958 instructional media for the handicapped act. Congress also passed the Rehabilitation Act of 1973 (which includes Section 504), the EHA Amendments of 1974, and finally, the Education for All Handicapped Children Act of 1975 (P.L. 94-142). The provisions and the impact of the passage of P.L. 94-142 will be discussed more fully in the following section of the review.

A chronology of these pieces of legislation as well as litigation directed toward providing more appropriate educational services for the handicapped may be found in Appendix A; they cover the period from 1800 to 1978. Important litigation which affected the assessment and placement of exceptional children and the furor which was triggered by these and other events in the field will be reported next.

Legal Issues in Testing and Placement

When one considers the historical roots of education for the handicapped, it becomes apparent that public policy and philosophical positions which support it are now significant factors in determining the educational options for each child (Abeson & Zettel, 1977; MacMillan & Meyers, 1977). By its extension of legislative mandate, public policy exerts a direct influence on the nature and type of

assessment which is legally acceptable. This fact was reflected by Goldberg and Lippman (1974) who pointed out that we are at last bringing exceptional children out of Plato's "mysterious unknown place" where they were once ostracized (Blanton, 1975). The right to an appropriate education for the handicapped is now more nearly a reality because of the work of parents and concerned professionals (Berry, 1977). The Bureau of Education for the Handicapped (BEH Data Notes, Note 2) reports that over three million handicapped children received special education and other related services during the 1976-1977 school year, emphasizing the fact.

Although much progress has been made in securing the rights of the handicapped, the sociohistorical perspective of these advances should not be ignored (Mercer, 1976b). This section of the review will present the development of the Civil Rights movement since that movement is closely parallel to the issue of rights for the handicapped. Then, issues in testing and placement which developed during the period from 1954 to the present (see Table 1) will be discussed following the chronological presentation. Moves within each area of concern closely paralleled the Civil Rights Movement of the 1960's.

1860's through 1950's. The issues which are presented here have as their fundamental base the concept of desegregation, a conceptual counterpart to the least restrictive environment provisions for the handicapped.

Table 1

## Legal and Legislative Highlights in Nondiscriminatory Assessment, 1954-1975

| Major Issues in Testing and Placement | 1954 | 1965-66 | 1967-68 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Desegration Least restrictive environment | * Brown v. Board of Education: No racial segregation in public education | Riverside Study: Overrepresentation of minorities in segregated EMR classes | Hobson v. Hanson, Washington, D.C.: Abolished track system in public schools | California school psychologists ask for reevaluation of all special education pupils | Spangler v. Pasadena California: Tests implicated in minority isolation | California Senate Bill 33: Purpose to rectify ethnic imbalance in EMR placements | * PARC Case: Right to an education for all MR children | * Mills Case: Right to an education for all handicapped children | * P.L. 94-142: Handicapped to be educated with normals to maximum extent possible; right to an education | OCR memo to states: Handicapped children be placed with "nonexceptional" to maximum extent possible |
| 2. Racially and culturally nondiscriminatory tests | | Riverside Study: Over 25% variance in IQ score explained by cultural factors | Black psychologists ask APA moratorium on IQ testing | Arthur Jensen's article in Harvard Educational Review reopens IQ-race issue | Black psychologists ask for IQ test moratorium in San Francisco schools | * Larry P. v. Wilson Riles Stop use of IQ to place Blacks in EMR class in San Francisco; extended to state and all groups | Group IQ tests dropped from mandated tests in California | | APA test standards purpose using local and cultural norms; P.L. 94-142 requires racially and culturally nondiscriminatory procedures | APA rejects moratorium on IQ test; rejoinder by minority psychologists; OCR memo to states requires racially and culturally nondiscriminatory testing |
| 3. Need for multiple measures in placement decisions; adaptive behavior required | | Riverside Study: Proposed adaptive behavior of operationalized and two dimensional definition of MR be required | | Diana v. California Board of Education: Multiple measures to be used in assessment of the Spanish-speaking child | Steward v. Phillips: First case to ask damages for placement solely on basis of IQ score | California Senate Bill 33: Requires measure of adaptive behavior in MR placement | OCR memo supports need for a measure of adaptive behavior and two-dimensional definition of MR | | APA test standards support use of multiple measures in assessment | OCR memo to states: Requires measures of "sensorimotor, physical, sociocultural, intellectual, and adaptive behavior;" defines adaptive behavior |
| 4. Definition of cutoff level for subnormality | | Riverside Study: Proposed two or more standard deviations cutoff (lowest 2.5%) | | | | California Senate Bill 33: Defines subnormal as two or more standard deviations below mean for MR placement | AAMD redefines subnormal as two or more standard deviations below the mean (lowest 2.5%) | | P.L. 94-142: Burden of proof that child benefits from placement shifts to the school | |
| 5. Testing in primary languages; need for | | | Arreola v. Santa Ana Schools: First case on mislabeling of Spanish speaking; settled out of court | * Diana v. California Board of Education: Child to be tested in primary language | OCR memo on use of tests: Need for testing in primary language | California Senate Bill 33: Requires testing in primary language | OCR memo on cultural bias in tests | | * Lau v. Nichols decision: San Francisco must provide programs in primary language for non-English speaking students | |
| 6. Due process safeguard applied to placement proceedings | | | | | | California Senate Bill 33: Requires written parental-consent to test and place | | | P.L. 94-142: Due process defined and specified | OCR memo to states: requires prior notice, impartial hearing, and other due process procedures in placement |

* Important court decisions and laws

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Since the 14th Amendment to the U.S. Constitution was ratified in 1868 and its equal protection clause applied to public education in Brown v. Board of Education of Topeka in 1954, desegregation has been an issue in numerous public schools across the nation. Plessy v. Ferguson in 1896 had established the doctrine of "separate but equal" which was to last through many cases (in Cumming v. Board of Education of Richmond County, 1899; Gong Lum v. Rice, 1927; Missouri v. Canada; Sipuel v. University of Oklahoma) and which governed over a decade of decisions regarding the rights of minority persons. McLaurin v. Oklahoma brought the end of an era during which the rights of minority persons had been severely restricted (Abeson, Bolick, & Hass, 1976).

When in 1954 Brown v. Board of Education of Topeka was decided by the United States Supreme Court, a new perspective on the rights of all persons was fostered. The court held that racial segregation in public education was unacceptable. In the decision, the court enunciated the opinion that every child should be awarded the opportunity to obtain an education if s/he is to be expected to succeed in life (Abeson, 1973). The court's rationale stated that although absolute equality may not be a reasonable goal, the provision of equal opportunity to secure an appropriate education is an attainable goal (Meyers, Sundstrom, & Yoshida, 1974).

The concept of desegregation/integration is one which embodies similar philosophies for minority and handicapped persons. The move for the integration and provision of appropriate services to persons of

disfavored societal status is one which has been influenced by the next issue to be presented: the alleged inappropriate nature, use, and interpretation of testing and evaluation procedures.

1960's through 1970's. During the period from 1965-1966, while the desegregation effort continued, three additional issues were highlighted by the results of Mercer's Riverside Study. The Riverside Study was an epidemiology of mental retardation which exposed labeling practices in a moderately sized southern California town. While the desegregation issue continued to smolder, the belief held by some professionals that tests were racially and culturally nondiscriminatory was challenged by Mercer's findings. From the study, Mercer concluded that over 25% of the variance in an IQ score could be explained by purely cultural factors rather than innate intelligence, as many in the psychological community had purported, and that as a result of the use of such tests, minority children were grossly overrepresented in segregated classes for the educable mentally retarded. Based on these facts, two innovations which were to become controversial issues in testing and placement were posed and later reiterated by Mercer (1973b): (a) the operationalization of a two-dimensional definition of mental retardation which emphasized the measurement of adaptive behavior, and (b) a constriction of the cutoff level on mental ability test scores to two standard deviations below the test mean (that is, the lowest 2.5% of the population). By the time Hobson v. Hanson was heard in Washington, D.C., during 1967, the professional community was dividing into camps regarding "scientific"

positions on these volatile issues. The abolition of track systems in the public schools by the Hobson decision provided an opportunity for many educators to rethink their positions on testing and on its ramification for service delivery within the public education system.

The first to formally assert themselves on this issue were a group of Black psychologists who demanded that the American Psychological Association (APA) declare a moratorium on IQ testing because of the tests proported racially discriminatory nature. During this same time period, the first case of mislabeling of Hispanics was filed, although settled out of court (Arreola v. Santa Ana Schools, 1967). Thus, another major issue in testing and placement emerged: the need for culturally relevant assessment procedures and instruments, which, if verbal, were administered in the primary language of the child.

In 1969, the same year that Arthur Jensen published his famous article in the Harvard Educational Review to reopen the IQ-race issue, California school psychologists asked for a reevaluation of all special education pupils in that state. Also in California, Diana v. The California Board of Education was decided. Diana was significant in two respects: (a) the court ruled that multiple measures were to be used in the assessment of a Spanish-speaking child, the first legal backing of Mercer's recommendations from the Riverside Study, and (b) the Court also ruled that the child must be tested in the primary language used in the home. Diana shares a common strain with the case of Larry P. v. Wilson Riles and The State of California in its contention that the erroneous identification of excess numbers

of Black and Spanish-surnamed pupils as mentally retarded and their placement in special education classes is unacceptable.

By 1970 more professional educators and school psychologists were taking a stand. After their request that there be a national moratorium on testing was rejected by the APA, the Black school psychologists decided to petition the court for a moratorium on IQ tests for the placement of Black children into classes for the mentally retarded in the San Francisco schools. Tests were implicated as a factor in the isolation of minority groups and group testing was deemed to be a faulty basis for pupil placement in Spangler v. Pasadena. Steward v. Phillips, the first case to ask damages for placement solely on the basis of an IQ score, was also filed (Abeson, 1973; Oakland, 1974). The Office of Civil Rights (OCR) issued its first memo on the use of tests, a memo which stressed the need for testing in the primary language of the child.

California was the first state to pass a comprehensive bill addressing these five issues which were of specific concern to special educators and psychologists. Senate Bill 33 of California defined as its purpose the rectification of ethnic imbalances in classes for the educable mentally retarded. It required the measurement of adaptive behavior, written parental consent to test and place, and also changed the definition of "subnormal" so that a child must obtain a score at or below the new cutoff level of 69, (i.e., two or more standard deviations below the mean) to be placed in a class for the mentally retarded.

While California was making changes to upgrade its educational placement process and to bring it more in line with recent legislative trends, Larry P. v. Wilson Riles (1972) was filed. Although originally filed in 1971, this case was certified as a class action suit in 1972, thereby affecting the lives of 5,700 California children placed in classes for the retarded. In the case the persistent Black psychologists of the Bay City area and others alleged that six Black children had been inaccurately labeled as mentally retarded following evaluations with intelligence tests which, in their opinion, were racially and culturally discriminatory. The case was brought to emphasize the fact that in San Francisco during 1971, Black students comprised 66% of the students in classes for the retarded, while they equaled only 28.5% of the city's total school population. State-wide statistics showed an even greater imbalance with Black children making up only 9.1% of the total California school population while Black children in classes for the mentally retarded constituted 27% of that population. Based upon the evidence, the court issued a preliminary injunction to prevent the placement of Black children in classes for the retarded on the basis of the intelligence tests as currently used.

In 1972, the right to an education for all mentally retarded children was affirmed in Pennsylvania Association for Retarded Children v. Commonwealth of Pennsylvania. In the PARC case, the parents of thirteen retarded children brought suit in the United States District Court for the Eastern District of Pennsylvania against the state for failure to provide their children and other retarded

children with a publicly supported education. In its action, the court approved a consent agreement and stated that if education is provided by government to some, it must be made available to all. The state's practice of excluding mentally retarded children from receiving an education violated the principle that all persons are capable of learning and developing, therefore also violating the right of the handicapped to receive an appropriate education (Turnbull, 1975). The same year, group IQ tests were dropped from the list of mandated tests in California. These judicial fluctuations affected policies of the American Association for Mentally Deficienty (AAMD) and the Office of Civil Rights (OCR). The AAMD officially reworded their definition of subnormal scoring to "two or more standard deviations below the mean," as Mercer had suggested, and officially supported the need for a measure of adaptive behavior and a two-dimensional definition of mental retardation. It also, for the first time, specifically addressed the issue of cultural bias in tests.

From the Mills case and the San Antonio case, decisions expanding and reducing the rights accorded to the handicapped were rendered in 1973. In Mills v. Board of Education the denial of an appropriate publicly supported education for all school age handicapped children was struck down and the right to due process, as provided by the Fourteenth Amendment of the United States Constitution, was stressed. The court's decision extended the right to an education from the PARC decision, which pertained only to mentally retarded children, to encompass all handicapped children. In San Antonio

Independent School District v. Rodriguez, a case which dealt with equality in school finance, the court's decision reflected caution in the application of the equal protection principle to educational questions by its contention that education was not a "fundamental interest" (Flygare, 1975). A boon to the field of school psychology appeared in legislation that same year: the Rehabilitation Act of 1973 (P.L. 93-112) finally recognized psychology as a health profession, thereby making assessment as well as restorative services provided by a licensed psychologist allowable within the scope of its support (Dorken, 1977).

During 1974, legislation, litigation, and professional involvement combined to create one of the most exciting years of progress in the move to afford better services to handicapped children. The Congress passed P.L. 94-142, the Education for All Hanidcapped Children Act, which was signed into law by President Gerald Ford. Writings on this piece of legislation are extensive (Ballard & Zettel, 1978; Harvey, 1978; Lance, 1976; McCarthy & Marks, 1977; Shulman, 1977; Yard, 1977). It has been billed as "blockbuster legislation" which will bring the schools closer to the principles of democracy on which the nation was founded (Goodman, 1976). P.L. 94-142 is viewed by one of its sponsors, Senator Harrison Williams, as the most significant development in federal school legislation since the enactment of Title I of the Elementary and Secondary Education Act of 1965. P.L. 94-142's more pronounced provisions dealing with testing and placement include: (a) definition and specification of due process safeguards, (b) the

requirement of racially and culturally nondiscriminatory procedures in assessment, (c) the concept of the least restrictive, most appropriate environment (atypical students will be educated to the maximum extent possible with typical students), (d) the requirement that testing be conducted in the child's native language or primary mode of communication, and (e) a shift in the burden of proof (that a child would benefit from special class placement) from the family to the school.

During this same year, Meyers, Sundstrom, and Yoshida (1974) filed a special report to the School Psychology Division of the American Psychological Association regarding past and current testing practices from a legal perspective. The American Psychological Association's newly published and revised test standards proposed the use of local and cultural norms rather than national norms and supported the use of multiple measures in assessment. In Lau v. Nichols (1974), another San Francisco case, the court held that programs must be provided in the primary language for non-English speaking students; therefore, the school system was to provide either a transfer program or cultural maintenance program for minorities within the district.

It took a year before educational and psychological professionals began to react to the new law, legal precedents, and shifts among colleagues, but in 1975 the seige began. Cleary, Humphreys, Kendrick, and Wesman (1975) published a controversial report prepared at the request of the APA's Board of Scientific Affairs to "stimulate

discussion of the important issues involved" (p. 15). A rejoinder (Jackson, 1975) to that paper was published and others followed from numerous sources. As Nesbit (1977) later noted, professionals seemed to take a reactive rather than pro-active stance. The APA again explicitly rejected a moratorium on IQ tests. The OCR issued another memo to the states to explain in detail its agreement with P.L. 94-142 on testing and placement issues. The memo stated that: (a) handicapped children should be placed with "nonexceptional" children to the maximum extent possible, (b) testing should be racially and culturally nondiscriminatory, (c) measures of "sensorimotor, physical, sociocultural, intellectual, and adaptive behavior" should be administered, and (d) prior notice of impartial hearing and other due process procedures in placement should be observed. This memo was also the first to offer a definition of adaptive behavior.

Larry P. Six Years Later: Where Do We Go From Here?

The case of Larry P. is now detailed in the review since its outcome has the real potential of changing the face of testing as we now know it in the American public schools. It is important to recognize the significance of this case as an outstanding one for both groups of professionals concerned with the assessment of children's abilities: school psychologists and educators.

The trial of Larry P. v. Riles, which was initially filed in 1971, began in California on October 11, 1977. Plaintiffs claimed that the test used to classify Black children as educable mentally retarded was racially and culturally discriminatory in nature. The primary

evidence for this declaration came from the fact that when the six children in the case were retested by Black psychologists, each scored above the ceiling for placement in classes for the retarded. Amicus (Note 3) reported:

> The first amended complaint, filed in January 1977, charges: 1) violations of the U.S. and California Constitutions; 2) violation of the right to an appropriate education under the Constitution and laws of California; and 3) violation of the right to an education free from discrimination as guaranteed by U.S. law including the Elementary and Secondary Education Act, the Civil Rights Act of 1964, the Emergency School Aid Act of 1972 and 1974, and all persuant regulations. (p. 14)

In this case, the plaintiffs' concerns can be readily expressed. First, they wanted to prevent the state from using racially and culturally discriminatory tests to place minority children into special education classes. Second, the removal of those students already misclassified and the provision of appropriate remedial training for them was deemed essential. Third, the plaintiffs wanted any mention of a child's previous special class placement stricken from the school records. Fourth, the required employment of more minority school psychologists was advocated.

The State Superintendent of Education et al. claimed the measures used for special class placement are not biased against minority students. Larry P. et al. claimed the tests are indeed racially and culturally biased.

The statistical definitions of a "biased" test. The case of Larry P. highlights two definitions of test bias which are the topics of current debate (Cronbach, 1975: Humphreys, 1973; Hunter, Schmidt, & Rauschenberger, 1977; Mercer, 1974, 1976b; Wesman, 1968; Talley, Note 4). The first definition is one in which a biased test is typically understood to be one which produces results that are systematically unfair to some group (Green, 1975). This traditional definition of bias in testing simply states that a test is biased if it shows partiality or a tendency to favor one group. Thus, a test is biased when: (a) it shows partiality to one group by including mainly questions from their cultural heritage and few if any questions from the cultural heritage of other groups, and (b) inferences about "intelligence" or "potential" are made on the basis of test scores by inequitable comparison of performance by difference cultural subgroups. Evidence of bias in such tests can be detected by examining test items to determine if they are based on topics from only one culture or require the use of language or skills from only one culture; if the scores are highly correlated with cultural background; if differences between average scores of minority and majority populations significantly favor the majority population; or if minority group members who are most assimilated to the majority core culture score better than those less assimilated. This is the definition of test bias being used by the plaintiffs in the Larry P. case.

The second definition regarding test bias comes from Cleary, Humphreys, Kendrick, and Wesman (1975), who stated that a test is considered fair for a particular use if the inference drawn from the test score is made with the smallest feasible random error and if there is no constant error in the inference as a function of membership in particular group. Thus, a test is biased if the variability around the regression line (random error) is not similar for both groups; if the level of the regression line is dissimilar for both, thereby producing a constant error in prediction; and if the slopes of the regression lines are not similar and hence produce different predictions for each group. Evidence of such bias takes three forms: (a) dissimilar size of correlations coefficients, (b) dissimilar intercepts for regression lines, and (c) nonparallel slopes for regression lines. It should be noted that using this definition, a difference in the average scores of the two groups (majority and minority) is not acceptable as an indicator of "unfairness" or "bias." This definition of test bias is being argued by the defendents in the Larry P. trial.

Although the court's ruling in Larry P. will greatly influence assessment and placement as it is now conducted, it will, in all likelihood, do little to settle the dispute of determined professionals who adamantly debate the meaning of test bias. It may be hoped, however, that the decision will spur professionals concerned with education of the handicapped toward more culturally appropriate assessment of all students.

Conclusion of Legal Issues

In this section of the review, a historical perspective on American education with a chronological emphasis on the developing issues effecting the handicapped were presented. Particular emphasis was placed on the case of Larry P. since it most clearly addresses the current debate on culturally nondiscriminatory assessment.

In the next section of the review, issues regarding testing shall be further delineated. Specifically, alternatives proposed as culturally and racially nondiscriminatory will be explored. Research regarding their effectiveness in fulfilling this claim will be presented.

## Alternatives for Nondiscriminatory Assessment

The appropriate testing of students from varying sociocultural backgrounds has historically proven to be a challenging task. As noted by many authorities (Anastasi, 1976; Brody & Brody, 1976; Cronbach, 1975; Edwards, 1975; Reschly, 1979; Samuda, 1975; Sattler, 1974), it has also been proven to be a task which is not easily or often adequately accomplished. The purpose of this section of the literature review is to provide an overview of those alternatives which have been proposed as racially and culturally nondiscriminatory in nature and to investigate what data have been marshalled to either support or refute their effectiveness.

Before turning to this task, however, it is important to note that the IQ test and the achievement test have been the standard psychometric instruments used by educators to measure the success of

their efforts (Hobbs, 1975). Present evidence suggests that these instruments seem to give an accurate indication of what might be termed "school functioning level," i.e., the amount learned in the core culture school when motivation, test-taking experience, and opportunity for prior learning is controlled (Mercer, 1979b). In the past, psychologists and educators have confused the issue of "potential" with that of "school functioning level," thus reifying the idea that the IQ test is a measure of genotypic potential rather than one of present academic functioning in the school environment. Mercer (1979b) discriminated between "school functioning level" and "estimated learning potential" in the development of the System of Multicultural Pluralistic Assessment.

In summarizing the major reasons for minority students' lower performance on the intelligence test compared with Anglo students' scores, Bee (1976), a developmental psychologist, listed researchers' suggested reasons for the differences in performance:

1. Fundamental differences in competence resulting from basic genetic differences (Jensen, 1969, 1972).
2. Basic differences in competence that arise from biological differences other than genetic, e.g., differences in nutrition or in prenatal and perinatal insult (Birch, 1972).
3. Basic differences in competence arising from systematic differences in parental teaching style, environmental enrichment, or other environmental differences (Bee, Van Egeren, Streissguth, Nyman, & Leckie, 1969; Bereiter &

Engelman, 1966; Hess & Shipman, 1965; Levenstein, 1970, 1975; Levenstein & Sunley, 1968; Lifshitz, 1978).

4. Primarily motivational differences that do not necessarily reflect differences in competence (Ginsburg, 1972; Zigler, Abelson, & Seitz, 1973; Zigler & Butterfield, 1968).

5. A "poor match" between the child's own natural environment and the types of expectations of the school or of the testing situation (Harris & McArthur, 1974). When these differences are eliminated or Ameliorated, the differences in performance disappear (Cole & Hall, 1974). (pp. 4-5)

A noticable omission from Bee's list is a delineation of concerns regarding the nature of tests themselves, although this is subtly suggested in point five. MacMillan and Meyers (1977) noted two general categories under which criticisms regarding nondiscriminatory assessment may be subsumed: (a) inherent problems in tests and testing procedures, and (b) problems related to the misuse and misinterpretation of tests.

A current discussion of the nature of tests and testing would, of course, be incomplete without reference to the debate between norm-referenced and criterion-referenced testing. This issue will now be addressed, followed by a delineation of those alternatives which have been proposed as solutions to the requirement of racial and cultural nondiscrimination.

The Use of Norm versus Criterion-Referenced Tests

As Hambleton, Swaminathan, Algina, and Coulson (1978) noted in their technical review, Glaser (1963) and Popham and Husek (1969) were the first to popularize the concept of criterion-referenced testing. Very notably, Ebel (1978) and Popham (1978) have been among the many to carry on the current debate regarding the use of norm-referenced and criterion-referenced tests. Carver (1974) also noted the important differences between these two types of tests.

Ebel (1978) presented a scholarly discussion of norm-referenced tests. Norm-referenced tests, according to Ebel, are preferred instruments because they: (a) assess the pupils' broad level of knowledge, (b) reflect common nation-wide learning goals, (c) assess levels of excellence in performance, (d) provide a means for the broad sampling of achievements, (e) reflect the philosophical tenet that achievement is multi-leveled and not strictly a mastery issue, (f) provide a single score to summarize achievement, (g) indicate the success of a pupil's efforts to learn, and (h) imply that primary responsibility for learning is upon the pupil, not the schools. Scannell (1978) concurred with the desirability of these features in a measurement instrument.

In contrast, Popham (1978) stated that for a test to be really useful, it must be fashioned to reflect the attainment of instructional goals. His quarrel, stated Popham, is not with the use of norm-referenced aptitude tests, but rather with norm-referenced achievement tests and their uses. Popham offered this potential major advantage for

criterion-referenced tests: they could sharpen the descriptive quality of tests by spelling out precisely what is being measured, and could allow for precise and highly individualized program decisions for children to be made. This type of instrumentation would be more precise and more demanding than some procedures which have already been developed (Brown, 1977; Jobes & Hawthorne, 1977; Newcomer, 1977).

The System of Multicultural Pluralistic Assessment is a norm-referenced instrument. Its developers offer no claims for its ability to be used as a program planning measure even though one of its measures, the Adaptive Behavior Inventory for Children, could potentially be used in a criterion-referenced fashion. Whether that would be feasible, however, would be a matter to be determined by future research.

Next, we shall turn to suggested testing alternatives for culturally and racially nondiscriminatory assessment.

Modifying Existing Tests Through Translation

One approach to cross-cultural evaluation is the modification of existing tests through translation (Shellenberger, Note 5). The translation approach has been shown to be of limited value since simple translation of the content of a test designed for and standardized on persons of one culture does not eradicate the cultural differences faced by persons from another culture. As Anastasi (1976) noted, translation of tests creates a problem with the comparability of norms and the equivalence of scores. Additionally, it usually requires some adaptation and revision of test content. Alley and Foster (1978) noted

that language differences between groups are not eradicated by using this approach "when one considers the complex language idioms, colloquialisms, words with multiple meanings, and words of similar but not identical meanings that characterize all languages" (p. 3).

Bhushan (1974) tested the usefulness of adapting one test, the Otis Quick-Scoring Mental Ability Tests, for the French culture. In the study, the Beta Test was translated into French and administerd to 1,686 students in grades five through nine. From the work, Bhushan concluded that a test of intelligence which is good for one culture may not be appropriate for another culture after translation, although it might serve as a model for constructing a totally different test.

Modifying Existing Tests Through Alteration of the Speed/Power Ratio

A second approach to cross-cultural evaluation is through alteration of a tests's speed/power ratio. The rationale for varying the speed/power ratio on a standardized test is that person from cultures which do not place a great value on the speed of performance do poorly on tests which are timed; therefore, if allotted more time, they would perform significantly better. However, DeAvila and Havassy (1974) pointed out that this procedure confuses ability with aspiration. Conflicting evidence has been generated concerning the speed/power hypothesis and at this time no conclusive data has been produced to support the suggested test alteration.

Modifying Existing Tests Through Emphasis on Nonverbal Items

The third manner in which tests may be modified is by placing greater emphasis on nonverbal test items. The rationale for the

approach is that performance tests are more culture-free than are verbal tests which contain a high language component. Anastasi (1976) noted two faults with the rationale: (a) nonverbal tests cannot be assumed to measure the same functions as verbal tests, and (b) research on nonlanguage tests (Anastasi, 1961; Ortar, 1963) suggests that such tests may be more culturally loaded than language tests. Another difficulty with this modification procedure surfaces when one considers that marked differences in perception by peoples from varying cultures have been found (Miller, 1973). The rationale for modifying existing tests through emphasis on nonverbal items has not proven to be justifiable since verbal and performance scores on standardized tests are usually highly correlated.

Developing Culture-Free Tests

The development of culture-free tests represented an attempt to strip away the individual's cultural veneer in order to assess inherent abilities (Anastasi, 1976; Samuda, 1975). Two instruments which were offered to do this were the Davis-Eells Games and the Raven Progressive Matrices.

The Davis-Eells Games Test (Davis & Eells, 1953), designed for children in grades one through six, was a nonverbal test in which all pictorially presented items dealt with school, home, play and work situations of supposedly equal familiarity to all sociocultural groups. Like the Cattell Test, which is discussed later in this review, the Davis-Eells Games were not enthusiastically received. In administering the test to 194 children of high socioeconomic status and

200 children of low status in the Memphis, Nashville, and Knoxville, Tennessee schools, Coleman and Ward (1955) found that the data did not support the contention that items on the Davis-Eells Games were more culturally-fair than items used in other group intelligence tests. Similar results with other populations were reported by Fowler (1955), Ludlow (1956), and Rosenblum, Keller, and Papania (1955). Noll (1960) criticized the test because of "low reliability at some levels, time required to administer it, and expense--the author questioned the usefulness of such a test for practical purposes" (p. 128).

Use of the Raven Progressive Matrices, another culture-free option, has been challenged by Burke (1958) who claimed that its reliability and validity in diagnosing individual strengths and weaknesses should be improved. Other researchers have found the Raven Progressive Matrices to reflect level of education and be subject to a considerable practice effect.

Developing Culture-Fair Tests

Since the development of the first tests proported to be culture-free, research in genetics and psychology has indicated that the development of intelligence is not due merely to nature or nurture, but rather to a blending of the two. The objective of testing professionals then turned from the development of culture-free test to the development of a culture-fair one. The purpose of such test development was to construct an instrument which tapped only experiences which were common to different cultures.

The Cattell Culture-Free Intelligence Test was one of the first attempts to develop a measure of ability which was free of cultural influences. When it was published in 1944, however, it drew critical reviews which pointed to the fact that the development of a culture-free test was an impossibility. In the 1950's, Cattell's new variation of this test was called the Cattell Culture-Fair Test. In subsequent research on this instrument, several researchers (Marquart & Bailey, 1955; Milholland, 1965) found that it did not meet its claim of cultural fairness since data indicated that scores on the Cattell show significant socioeoconomic status differences. MacMillan (1977) reported that a culture-fair test reveals as much social class difference in performance as traditional tests of intelligence.

Developing Culture-Specific Tests

In addition to culture-free and culture-fair tests, another approach to nondiscriminatory assessment is to use culture-specific tests. Major limitations of this approach are: (a) the enormous expenses in the standardization of a test for every sociocultural group in America, (b) the extreme complexity and difficulty involved in developing the content of such tests, and (c) the ungeneralizability of test results to members of other cultural groups. Even with these limitations, however, a number of culture-specific tests have been developed. Two of these are the Black Intelligence Test of Cultural Homogeneity and the Dove Counterbalance General Intelligence Test.

The Black Intelligence Test of Cultural Homogeneity (BITCH) is a vocabulary test for adolescents and adults (Williams, 1972). It

contains 100 multiple-choice items which tap knowledge of the Black subculture. Although the instrument was standardized on 100 Blacks and 100 Whites, it should be noted that the test becomes a measure of cultural sensitivity to Black experiences when it is administered to White subjects (Samuda, 1975).

Two studies on the BITCH have produced interesting findings. Matarazzo and Wiens (1977) administered the BITCH and the Wechsler Adult Intelligence Scale (WAIS) to 17 Black and 66 White police applicants. Their results showed much overlap of applicants' WAIS between ethnic group score distributions, but low within ethnic group score distributions of scores on the BITCH. Matarazzo and Wiens concluded that the present form of the BITCH lacks concurrent validity and an adequate ceiling for Black police applicants. Long and Anthony (1974), in studying 30 Black students enrolled in classes for the educable mentally retarded (EMR) in Gainesville, Florida, found a low positive correlation between scores on the Wechsler Intelligence Scale for Children (WISC) and the BITCH.

When testing persons with the BITCH, Williams (Note 6) reported the Black subjects obtained reliably higher scores than did Whites. Alley and Foster (1978) suggested that Williams developed the BITCH merely to emphasize the need for revalidation of conventional tests to responses by Blacks, while other sources ("Testing Black Youth," 1974) view Williams' work as a real effort to test the intelligence and personality of children who not been raised in the White middle-class environment.

The second culture-specific test is the Dove Counterbalance General Intelligence Test (Dove, 1966). The test was designed to demonstrate that traditional measures of intelligence are heavily weighted against minority groups. The Dove Test, like Williams' BITCH, was composed of questions which could be easily answered by disadvantaged Blacks and rarely answered correctly by middle-class Whites. This test, while published in 1966, has been the topic for little research.

Other Alternatives

It should be noted that several other assessment procedures have been suggested, including self-assessment (Levine, Flory, & Ash, 1977), in situ assessment (Budoff, 1969; Ortar, 1960), psychosituational assessment (Bersoff, 1973), and learning potential measurement (Babad & Budoff, 1974). Most of these focus on a process orientation which is of interest for future research in the field.

Conclusions on Alternatives for Culturally and Racially Nondiscriminatory Assessment

For more than seven decades, professionals concerned with the evaluation and assessment of children's abilities had myopically limited themselves to the IQ test as the primary indicator of a child's intellectual abilities. More recently this practice has undergone extensive revision due to the legal mandate of federal government as well as to the community outcry against use of this single measure. With the passage of Public Law 94-142, the Education for All Handicapped Children Act of 1975, unidimensional assessment fades into

the long, static period in the history of professional efforts to appropriately evaluate all children regardless of their race, ethnicity, age, or socioeconomic level.

In this section of the literature review, historical suggestions for nondiscriminatory assessment have been presented. Summaries and evaluative data regarding the modification of existing tests through translation, alteration of the speed/power ratio, and through an emphasis on nonverbal items were delineated. Also offered were data on culture-free, culture-fair, and culture-specific tests. Lastly, additional test alternatives which may be appropriate for the racially nondiscriminatory assessment of minority youth were suggested.

In summarizing the alternatives for culturally and racially nondiscriminatory assessment thus far, Mercer (1976a) noted that:

> . . .present assessment procedures violate certain basic rights of children and that a system of pluralistic, multicultural assessment - a system that considers both adaptive behavior and sociocultural background in assessing the meaning of scores on standarized measures - is needed. (p. 132)

In the next portion of the literature review, the findings of research on Mercer's System of Multicultural Pluralistic Assessment (SOMPA) will be presented.

Research on the System of Multicultural Pluralistic Assessment

After development of the System of Multicultural Pluralistic Assessment (SOMPA) from the late 1960's through the mid-1970's, the system was finally field-tested beginning in 1975 in Pueblo, Colorado.

Since that time, some research has been conducted on the total assessment system although most work reported to date has focused only on parts of the system. In this section of the literature review, these studies are presented.

Research on the Total System

Bryant (1976), in conducting one of the first studies using the SOMPA, determined the usefulness of the SOMPA in providing information for team staffings. Bryant documented the reevaluation staffings of one hundred forty-six children between the ages of six and twelve who were enrolled in EMR classes in an Iowa school district. Age, sex, and intellectual ability of the students were considered in dividing them into two groups. Bryant found that in experimental group staffings, where professionals discussed students who had been administered the SOMPA, information regarding physical dexterity, health history, vision and hearing, adaptive behavior and family structure/size were discussed. These factors were not discussed in control group staffings. Bryant noted greater particpation in experimental group staffings and hypothesized that this was due to increased parental involvement in the reevaluation process. Slightly more time (10 minutes) was needed to conduct the experimental group staffings and one additional person was present.

In looking at the results of using the SOMPA, Bryant reported that more experimental group children were removed from EMR classes when SOMPA scores were used than when WISC-R scores alone were used. Children with lower socioeconomic backgrounds scored higher on the SOMPA than their higher socioeconomic status counterparts.

Fisher (Note 7) compared the frequencies of EMR, Trainable Mentally Retarded (TMR), and non-retarded classifications for sixty middle and low socioeconomic status Anglo, Hispanic, and Black elementary and secondary students who were referred for initial evaluations and three year reevaluation in Corpus Christi, Texas, during the 1976-1977 school year. Four approaches were used to determine classification: (a) WISC-R Full Scale scores less than or equal to 70, (b) WISC-R Full Scale scores less than or equal to 70 and WISC-R Verbal and Performance scores less than 75 and no more than two subscale scores higher than eight and Achievement Scale scores less than 80 and performance of at least two standard deviations below the mean on the Bender Gestalt, (c) score of less than 70 on Estimated Learning Potential, and (d) all the previous criteria plus scores of two (EMR) to three (TMR) standard deviations below the mean on the ABIC.

Fisher found that these approaches did produce differences in the numbers of children who were classified as EMR and TMR. The first approach led to the greatest number of students being classified as EMR (73%), the second approached classified 57% as EMR, the ELP approach resulted in the classfification of 37% as EMR, and the use of the ABIC with all other criteria allowed only 23% of those assessed to be classified as EMR. Fisher concluded that the adaptive behavior approach classified the fewest number of students as mentally retarded, with the ELP approach being the next most effective. Trends in the data supported this conclusion for TMR classification as well.

Fisher suggested that both the ELP and the ABIC would be useful in meeting the goal of nondiscriminatory assessment.

Fisher (Note 8) replicated this study the following year with 110 students who were referred for inital or three year reevaluations. In condition (a), 77% of the referred students were classified as EMR, while 63%, 42%, and 23% were classified as EMR using a traditional psychometric condition (b), the ELP condition (c), or the ABIC condition (d), respectively.

In an Arizona study, Reschly (Note 9) found that using the criterion of WISC-R or ELP scores less than or equal to 70 helped to decrease the percentage of minority group children classifed as EMR. The prevalence using these criteria was the same for Anglos, 7.8% with the WISC-R versus 4.7% with the ELP for Blacks, 9.16% with the WISC-R versus 2.4% with the ELP for Hispanics, and 22.9% with the WISC-R versus 3.3% with the ELP for Papago Indian. Oakland (1979a) hypothesized that as many as two-thirds of the children presently certified as EMR could be declassified by using both the ABIC and the WISC-R scores.

Fisher's and Reschly's studies as well as Oakland's hypothesis are interesting in light of findings presented by the President's Committee on Mental Retardation (1977) and Mercer's earlier research on the topic of declassification (1973b). In emphasizing the importance of the definition of subnormality in determining its prevalence, the President's Committee stated that a change from the 1961 American Association of Mental Deficiency (AAMD) definition of

less than one standard deviation below the mean to the AAMD's 1973 version (more than two standard deviations below the mean) resulted in lowering the incidence of mental retardation by 80%.

Taking a note from Mercer's Riverside Study, the President's Committee also noted that when a one-dimensional definition of mental retardation is used (IQ less than 70), the overall rate of mental retardation dropped to 2.14%, with Blacks showing a rate ten times and Hispanics showing a rate 34 times greater than Anglos. However, when a two-dimensional definition of mental retardation was used, the rate dropped to .9%. When pluralistic norms for both IQ and adaptive behavior were added, the overall rate was reduced to .54% with the total shrinkage accounted for by the Hispanic group. Although the SOMPA was not used in the research reported by the President's Committee, these findings provide some indication of what researchers might expect if the SOMPA were employed. It will be of particular interest to project the influence which future use of the Adaptive Behavior Inventory for Children will have upon such prevalance rates.

In summary, data obtained from research on the total SOMPA system have been presented. Additional work by the President's Committee on Mental Retardation and by Mercer were related to these data. It should be noted that no other studies which focus on the effects of implementing the SOMPA were found. In the next section, research data on the Adaptive Behavior Inventory for Children (ABIC) are presented.

Research on the Adaptive Behavior Inventory for Children (ABIC)

Although the majority of studies on the ABIC have been conducted in Texas, data from Arizona and Iowa also add to existing knowledge regarding its statistical properties when applied to children from widely disparate geographical locations. These studies are now reviewed.

Oakland and his students from the University of Texas at Austin have provided much research to date on the ABIC. Oakland (1979a) reported a study (Tebeleff & Oakland, Note 10) on the ABIC using Austin data. Tebeleff and Oakland found that correlations between the ABIC and the School Functioning Level (WISC-R) Full Scale scores were .28 for the total sample, .31 for Anglos, .12 for Blacks, and .27 for Hispanics. These correlations, although significantly higher than those reported by Mercer in the California standarization sample, indicated that the ABIC is not highly correlated with measures of intelligence. The data from this study support Mercer's contention that the ABIC is conceptually different as well as significantly different statistically from achievement and intelligence measures. Results also indicate that the ABIC is not biased since racial groups, sex, health, family size or urban acculturation characteristics did not significantly influence children's adaptive behavior scores. In separate work, Oakland (1979a) found 84% of the ABIC items to be appropriate for use with institutionalized blind children.

When comparing ABIC data on Hispanic children from Austin and Corpus Christi, Texas, with ABIC data from the California

standardization sample, Buckley and Oakland (Note 11) found that the scores of Hispanic children from both Texas cities were about the same, but were significantly lower than their California counterparts on the ABIC total and on four subtests (Family, Community, Nonacademic School, and Earner/ Consumer). They found these differences to be most pronounced for lower class Hispanic students. Buckley and Oakland also found that intercorrelations of the ABIC subtests and the ABIC total score were roughly equivalent for all three groups. Correlations in the California standardization sample ranged from .68 to .88 (median $\underline{r}$ = .80), in the Austin sample from .66 to .91 (median $\underline{r}$ = .81), and in the Corpus Christi sample from .51 to .90 (median $\underline{r}$ = .78).

In the same study, Buckley and Oakland presented data on the prediction of ABIC scores through the use of the Sociocultural Modality Scales. They found that the Urban Acculturation Modality was the best predictor of ABIC total scores for both Austin and Corpus Christi. While Family Size and Family Structure were not found to be significant predictors of ABIC scores, the SES modality was the second best predictor of these in the Texas data.

These results compare favorably with those of Mercer which are reported in the SOMPA: Conceptual and Technical Manual (1979b). While Buckley and Oakland found that the Sociocultural Scales accounted for 10% of the overall variance, Mercer (1979a) reported the variance explained on the ABIC scores by the Sociocultural Scales to range between 1.2% (Family) to 2.6% (ABIC Total) for the California sample. On the basis of their data, Buckley and Oakland have called for the development of local norms on the ABIC.

Gridley and Mastenbrook (Note 12) investigated the need for local norms and ethnic group norms for the ABIC. In using a stratified random sample of 420 children (140 Anglo, 140 Black, 140 Hispanics) between the ages of five and eleven in the Corpus Christi Independent School District, they found that the Corpus Christi general population means on the ABIC differed significantly from the California general population means. They concluded that within the Corpus Christi sample, Hispanics of low socioeconomic status (SES) should be treated as a separate population from other ethnic/SES groups, therefore requiring separate norms.

In a parallel study, Garza, Marriott, Mastenbrook, and Scott (1977) agreed with Gridley and Mastenbrook's work by concluding that local ABIC norms for Corpus Christi school children were not needed for any group except low socioeconomic Hispanics. They stated that the ABIC's California norms were appropriate for all other children within the school system.

Also noted from the Corpus Christi data, the ABIC is the adaptive behavior instrument of choice in that school system, rather than the Vineland Social Maturity Scale (which is used with children below the age of five) or the Adaptive Behavior Scale - Public School Version (ABS-PS). Of the three, the ABIC is the preferred instrument (Scott, Note 13). Mastenbrook (Note 14) concurred by stating:

> Generally speaking, the ABIC goes farther in assessing social role behaviors and assesses self-maintenance behaviors in more of a social system perspective than does the ABS-PS. The ABS-PS

> concentrates more on basic self-maintenance behaviors, assesses behavior in fewer social systems, and has fewer questions concerning social role behaviors than does the ABIC. (p. 11)

In summary, the Corpus Christi data and experiences indicate that the ABIC is the best existing instrument with which to operationalize the AAMD concept of mental retardation (Mastenbrook, Note 14).

Another study reporting on the ABIC was conducted by Fuentes, Gutierrez, and Carlson (1977) who studied a general population random sample of 200 Hispanic children from six to nine years of age stratified by sex and age. These students were enrolled in the Mercedes, Texas, Independent School District during the 1976-77 school year. Age differences expressed in years were reported by these researchers while sex differences in scores were ignored. Fuentes, Gutierrez, and Carlson found that mean scores on ABIC subscales ranged from 37.84 (Community) to 49.34 (Self-Maintenance) for six year olds, from 36.80 (Community) to 52.88 (Self-Maintenance) for seven year olds, from 32.12 (Community) to 47.34 (Self-Maintenance) for eight year olds, and from 31.29 (Community) to 43.50 (Peers) for nine year olds. From these data, it appears that even though items on the ABIC are age graded and scaled scores are expressed in terms of age ranges, there are some age differences in SOMPA scores among Hispanic children in Mercedes.

Kazimour (1979) conducted the most comprehensive study on the ABIC performed to date to determine whether the overall performance of 482 randomly sampled children in Pima County, Arizona, (146 Anglos, 120

Blacks, 112 Hispanics, and 104 Papago Indans) was significantly different from that of the California SOMPA standardization sample on four measures. In analyzing the data in a variety of ways, Kazimour added to current knowledge regarding the ABIC. She found that:

1. There were differences between overall means for the California and Arizona samples with the California mean being higher in all but two cases. These two exceptions were that Arizona Hispanics scored higher than California Hispanics on the Earner/Consumer and Self-Maintenance Role performance scales. These differences were not found to be statistically significant.

2. There were significant differences between means for the total scaled scores for each ethnic group for the two samples. These differences generally ranged from three to five points (about one-third of a standard deviation).

3. Papago Indians differed significantly from each of the other three ethnic groups on seven subscales of the ABIC: Peer, Nonacademic School, Earner/ Consumer, Self-Maintenance, ABIC Total, Don't Know, and No Opportunity. There were no significant differences among the four ethnic groups on Family or Community subscales.

4. There appeared to be no significant differences between the ABIC scores of urban and rural Anglos and Hispanics in the Arizona sample.

5. Although a number of significant correlations were found between the ABIC subscales and the WISC-R (SFL) and between the

ABIC and the Estimated Learning Potential (ELP), all were low, thus indicating that the ABIC and these measures are virtually independent.

6. Correlations between the ABIC and the Metropolitan Achievement Tests for reading and mathematics were found to be low suggesting independence of the measures.

7. Few significant correlations were found between the four SOMPA sociocultural scales and the ABIC. Correlations between the measures were low, which again indicated virtual independence of the measures.

8. There was no relationship between teacher ratings of academic performance and the ABIC for Blacks, Hispanics, and Papagos. There was a significant negative correlation between a teacher rating scale and the ABIC for Anglos.

In conclusion, Kazimour stated that these results may suggest a need for the development of local ABIC norms. She also questioned the appropriateness of ABIC norms for the Papago Indian sample. She further highlighted the fact that the relationship between the ABIC and the WISC-R, the Metropolitan Achievement Tests for reading and mathematics and the Sociocultural Scales were found to be minimal, indicating that the ABIC is demonstrably independent of these measures.

Research on the Sociocultural Scales

In a 1977 study, Oakland (Note 15) also examined data from the SOMPA's Sociocultural Scales. In comparing Austin and California

children, Oakland found that Anglo children from Austin tended to have significantly lower scores on Family Structure and Urban Acculturation than did those in California. Austin Black and Hispanic students tended to come from homes of higher socioeconomic status than did students from the California standardization sample. Since significant differences were found between ethnic groups on the WISC-R and the Sociocultural Scales, Oakland concluded by supporting the use of pluralistic norms with the WISC-R.

Research on the Estimated Learning Potential (ELP)

Oakland (Note 15) continued his study of the SOMPA by calculating ELPs for children in his Austin sample using the multiple regression equations provided by Mercer and using equations derived from the Austin data. He found that the multiple regression equations provided by Mercer produced ELPs which were 7 to 8 points different than those derived from the use of Austin regression equations. Using reading and mathematical achievement data, Oakland found that the WISC-R accounted for about twice as much variance in reading and math as did ELPs. Reschly (Note 9) also reported mean ELPs from his Arizona population sample to be 3.4 points higher than the California equation yields for Blacks and 7 points higher for Hispanic children.

Dewey (1978), using data from this Arizona sample, investigated the validity of the ELP. She found that although the ELP regression equations for the California and Arizona samples differed, they produced similar results when applied to the Arizona sample's WISC-R scores. However, exceptions to this, particularly with the Hispanic subsample, were noted.

In a study previously mentioned, Bryant (1976) found that mean ELP scores of Iowa school children who were being reevaluated differed significantly from their WISC-R scores. Using these results, more children would be declassified from special education classes if ELP scores were used rather than WISC-R scores. Bryant also found that ELP scores were consistently higher than WISC-R scores for children whose families reported income wholly from state, county, or federal welfare, social security, or other public funds.

Scholars' Comments on the SOMPA

Although research on the SOMPA has been sparse, many comments regarding the adequacy and appropriateness of the system in fulfilling the need for culturally and racially nondiscriminatory assessment have been generated. These comments, which are now presented, deal primarily with issues regarding the format, logistics, validation, and the intent and purpose of the SOMPA.

Positive comments on the SOMPA. Generally positive comments on the SOMPA are now summarized:

1. The SOMPA is philosophically based on a pluralistic view of American society (Figueroa, 1979). Since it was developed to address a culturally diverse population, it meets all the testing specifications of P.L. 94-142 and includes controls for ethnic differences on measures of estimated potential. By so doing, it may help to uncover hidden potential in children who, because of their sociocultural background, have never succeeded in demonstrating their potential for learning.

2. The ABIC appears to be a potentially useful instrument for both research and in practice (Brown, 1979b).
3. All materials in the SOMPA, with the exception of the WISC-R, are available in Spanish. These materials have been successfully used in California, Texas, and Florida, areas with large Hispanic popoulations which are often described as dialectially beyond a single Spanish translation (Figeroa, 1979).
4. The manuals and record forms are straight-forward and simple to understand and use (Brown, 1979b).
5. SOMPA's real contribution as an assessment system is the structured method it provides for the child's total evaluation (Bryant, 1976).
6. When the SOMPA is utilized by a school district of multi-ethnic composition, it may serve as a catalyst to streamline the assessment process and provide more diverse services to educate students in the most appropriate settings (Talley, 1979).

Criticisms and evaluations of the SOMPA. Most criticism of the SOMPA stems from "the belief that American society is and should be regarded as a single, homogeneous entity. Differential treatment, such as that inherent in ELP, runs counter to this Anglo conformity view of American society" (Figeroa, 1979, p. 34). Criticisms of the SOMPA come from a variety of perspectives.

1. The SOMPA omits data which is considered important by various professionals: measures of teacher judgment (Goodman, 1979b; Oakland, 1979a), information on the school as a social system, teacher interviews, systematic examinatons of the curriculum, and classroom observation (Oakland, 1979a). Furthermore, Garza, Marriott, Mastenbrook, and Scott (1977) suggested that the Sociocultural Scales do not describe the total environment of the child and that the Health History Inventories do not provide sufficient nutritional data on the child, yet it places too much reliance of the mother's memory in recounting the child's health history. Baca and Cervantes (1978) also expressed concern that the ABIC relies too heavily on the accuracy of the parent's or guardian's memory.
2. The validity of the Estimated Learning Potential score has yet to be determined (Brown, 1979a; Goodman, 1979a; Oakland, 1979a).
3. The SOMPA presently provides little information from which educators can develop direct interventions (Oakland, 1979b). Bryant (1976) found that although classroom teachers expressed interest in the SOMPA, they questioned its lack of direct teacher input.
4. Logistical issues regarding the development and use of the SOMPA were presented. Brown (1979b) stated that the SOMPA: Conceptual and Technical Manual provides too little

emphasis on technical information and too much information about the conceptual framework upon which the system was based. He suggested the need for reliabilities, standard errors of measurement, and intercorrelations for the Sociocultural Scales. ABIC scores were transformed to a 50/15 scale instead of the 50/10 recommended by the APA Test Standards (1974).

5. The generalizability of the California norms to samples from other geographical areas has not yet been determined (Oakland, 1979a).
6. Some professionals feel that the time and skills needed to administer the SOMPA are excessive. Oakland (1979b) stated that the entire process takes five hours. Bryant (1976) suggested that as school psychologists and social workers become more familiar with it, the process will take less time.
7. "Mercer's position that the SOMPA leads to educational decisions that are not racially or culturally discriminatory also lacks support" (Oakland, 1979b, p. 212).

Although many other comments regarding the SOMPA can be documented, those presented in the previous sections embody the most prominent thoughts expressed in the literature. Mercer has replied to many of these (1979a).

Suggestions for Future Research on the SOMPA

Based upon data generated to date concerning the SOMPA, several suggestions for research on the system have been offered.

1. Validation of the Estimated Learning Potential is paramount (Brown, 1979a, 1979b; Figeroa, 1979; Oakland, 1979a). Experimental learning conditions may be the best means for validating the ELP.
2. Generalizability of the norms from the California standardization sample must be determined (Brown, 1979b; Dewey, 1978; Oakland, 1979b).
3. The evidence that use of SOMPA scores will result in more accurate assessment or better educational planning needs to be clarified (Brown, 1979b).
4. A new format for the ABIC which would allow the parents to read the questions and answer them in a mutliple-choice format has been suggested by Oakland (1979a).

The present study was designed to add depth to the knowledge which is now accumulating on the SOMPA. It addressed the issues of generalizability of scores, of statistical properties of the systems, and of placement outcomes for children, among others.

Conclusions

In this chapter, legal issues in the education and assessment of handicapped and of minority group children were explored, alternatives for racially and culturally nondiscriminatory assessment were discussed, and research on the SOMPA was presented. Legal issues in

education and assessment described the dependence of new approaches to testing on the Civil Rights Movement and its parallel movement toward increasing the rights of handicapped individuals. Diverse alternatives for racially and culturally nondiscriminatory assessment were developed and researched to determine their effects when used with persons of varying sociocultural backgrounds. Although very little research on the SOMPA has been conducted, that which has been generated suggests that the ABIC may be one useful alternative for the measurement of adaptive behavior and calls for greater research efforts on the effects of implementing the SOMPA. This issue was addressed by the present study.

In the next chapter, the questions of the study will be presented.

# CHAPTER III

## QUESTIONS OF THE STUDY

The questions framed to guide the present investigation dealt with the internal validity of the SOMPA, its impact in influencing placement decisions, and on changes in staff utilization which resulted from its adoption.

### Questions

#### The Issue of Internal Validity

Intrinsic to the assessment philosophy behind the SOMPA is the concept of multidimensionality of assessment criteria. Labeling and placement decisions should be based on multiple criteria, not merely on an intelligence quotient. Mental retardation, in particular, is a judgment about the general competence of an individual and not solely his/her performance on academic type questions. Therefore, classification devices should incorporate measures of adaptive behavior in the person's natural environment. Mercer's analysis, furthermore, differentiates between medical, social system, and pluralistic measures. These should be shown to be distinctive of one another, but internally consistent.

To determine, then, whether the underlying principles of the SOMPA have been satisfied empirically, the following questions must be answered:

Question 1: What are the intercorrelations among measures within the Physical Dexterity Tasks, the Health History Inventories, and the ABIC?

Question 2: What are the correlations of measures drawn from different instruments within models?

Question 3: What are the correlations between the measures in the three different models?

Question 4: How do the Sociocultural Scales correlate with the SOMPA measures?

The Issue of Ethnic Differences in Measures

Mercer stated in the SOMPA: Conceptual and Technical Manual (1979b) that Medical Model measures should be free of ethnic differences since medical pathology is not culture bound but rather is transcultural. Conversely, she stated that Social System Model measures are by definition culture bound since they consist of questions which reflect conformity to social role expectations. Pluralistic Model measures should be found to minimize ethnic differences since they incorporate adjustments based upon Sociocultural Scales which are designed to reduce differences in scores by ethnic group and by sociocultural space within each ethnic group. To determine if this philosophical orientation toward ethnic differences on SOMPA measures holds true when a referred population is used, the following question was asked:

Question: Are ethnic differences present on SOMPA Medical Model, Social System Model, or Pluralistic Model measures?

The Issue of Ethnic Disproportionality in Special Education

Many scholars (Dunn, 1978; Mercer, 1973b) have documented the historic overrepresentation of minority students in special education programs, most notably in classes for the retarded. As cited in Chapter II, legal challenges to this discrimination against minority group members have been mounted. Many suits filed to alter this practice have as a central point the alleged racially or culturally discriminatory nature of evaluation procedures which are used to determine placement.

The OCR review of the Pueblo schools in 1974 indicated that minority students were overrepresented in that district's classes for the educable mentally retarded. Since the SOMPA was designed to be a racially and culturally nondiscriminatory assessment procedure, district administrators chose to implement it. By so doing, it was hoped the SOMPA would assist professionals in making culturally nondiscriminatory placement decisions for children, thus correcting for the disproportionality present in EMR classes.

To determine if this resulted, the following question was asked:

Question: Are minorities over-represented in Pueblo's special education programs?

The Issue of Placement Before and After SOMPA Administration

With the concepts of culturally and racially nondiscriminatory evaluation and placement in least restrictive environments (LRE) now in public focus, it was of interest to determine what effects that a system purported to assist in achieving both would have. The federal mandate of LRE, use of the SOMPA's multiple measures, and adoption of low cutoff scores would suggest that fewer students would be found in full-time special education placements. Additionally, the citation for noncompliance which the Pueblo schools received, in part, because of their over-representation of minority students in special education programs would suggest that fewer minorities would now be found in the district's EMR programs.

To clarify the issue of placement outcomes before and after a SOMPA administration, the following questions were asked:

Question 1: What is the ethnic distribution of students assigned to educational programs after SOMPA evaluation?

Question 2: For each ethnic group, what placement shifts are found in the numbers of students assigned to various placements before and after SOMPA evaluation?

Question 3: Are there differences in SOMPA scores by placement after SOMPA assessment?

The Issue of Profile Indicating Placement

The possible development of a SOMPA profile which is formed by combining a particular set of SOMPA scores to indicate placement is

intrinsically appealing. Therefore, in this study, a profile variable which would allow one to determine if children with certain pass/fail patterns on selected SOMPA measures were assigned to similar placements was created. The Physical Dexterity Average score was used to represent the Medical Model; the Adaptive Behavior Inventory for Children Average and the Full Scale School Functioning Level scores represented the Social System Model. The Estimated Learning Potential Full Scale score was used to represent the Pluralistic Model.

To determine the validity of using this combination of measures to indicate placement, the following questions were investigated:

Question 1: What are the ethnic distributions on the eight SOMPA profiles?

Question 2: Does use of the SOMPA profile assist in delineating trends in educational placements after assessment?

The Issue of Passing/Failing "Traditional" and Pluralistic Criteria

As indicated in Chapter 1, the effects of using "traditional" versus pluralistic criteria are hypothesized as being different. In the Riverside Study, Mercer (1973b) found that of 268 reevaluated, labeled retardates in the public schools, 146 passed the IQ test when the 3% criterion was applied while 122 failed the measure. Of those who failed the IQ, 108 also failed the IQ with pluralistic norms while 14 passed this additional measure. Sixty-nine students were found to have failed on both of these measures and on adaptive behavior as well. Thirty-nine students who failed both the traditional IQ and the IQ with pluralistic norms passed on adaptive behavior with pluralistic norms.

Mercer categorized these children in several ways. Students who failed all three measures were labeled as Type 1 and Type 2 MR. Those who passed all three measures, those who passed the first two measures and failed the remaining one, and those who failed the first two measures and passed adaptive behavior were categorized by Mercer as: (a) low normal, (b) behaviorally maladjusted, and (c) quasi-retarded.

To determine what impact that the use of this combination of measures would have with a referred population, the following questions were investigated:

Question 1: How many children pass and fail traditional criteria; IQ with pluralistic norms; adaptive behavior?

Question 2: How many of the children who pass and fail traditional, pluralistic, and adaptive criteria are placed in the special education programs?

The Issue of Staff Utilization

As new, more comprehensive assessment procedures come into use, the effects of their implementation on the utilization of staff within school districts should not be ignored. Researchers (Bryant, 1976; Oakland, 1979b), as well as practicioners, have questioned system-level effects in this area which the SOMPA may have.

To clarify the effects of implementing the SOMPA on staffing patterns, the following questions were offered:

Question 1: What is the distribution of teachers employed in Pueblo from 1970-1978?

Question 2: What is the distribution of special education support personnel employed in the Pueblo District #60 Schools from 1970-1978?

Answers to these questions will increase the currently available knowledge on the effects of implementing the System of Multicultural Pluralistic Assessment.

## Limitations of the Study

The major limitation of the study was that data had to be collected over a period of several months. This delay in data collection may have resulted in somewhat less than optimal standards during the final months of data acquisition.

An additional limitation of the study which should be considered in data interpretation is that only children between the ages of five and twelve years at the time of their assessment were included in the study. This restriction was necessary since the SOMPA is standardized for children in this age range only. Programmatic and placement outcome results, therefore, are not generalizable to secondary school populations.

## Definition of Terms

In the context of the study, assessment refers to the process of determining a child's abilities. "Traditional" assessment, as noted previously, consisted of the determination of a child's intellectual

abilities as typically measured by an IQ test. The SOMPA profiles a child's abilities and disabilities physically, adaptively (socially), and intellectually as well as specifying an "estimated learning potential" which takes sociocultural background into account. Thus, with regard to the SOMPA, the term assessment personnel refers to social workers and school nurses as well as to school psychologists and educational specialists.

Educational placement refers to the type of classroom to which the child is assigned after assessment. A child's educational placement can be for the whole day or for only parts of a day. If placement is for only a portion of the school day the child may have a "primary placement," that classroom in which s/he spends the majority of the school day, and several other placements as well. If the other placements are for less than one-half of the school day, they can be of two kinds: (a) special education, or (b) supportive services. Within the Pueblo District #60 schools, supportive services are not provided by special education personnel.

In the next chapter, results of the study and a discussion of the findings will be presented.

# CHAPTER IV

## METHOD

The focus of this chapter is the method employed to examine the questions posed in Chapter III. The chapter is divided into four segments: sample, procedure, instrumentation, and data analysis.

### Sample

Since some questions in the first chapter called for a comparison of students' scores on the various instruments contained in the SOMPA, two samples were actually employed.

#### The Pueblo Sample

The first sample was composed of children referred for initial assessment or reevaluation in the Pueblo District #60 Schools, Pueblo, Colorado. These children were administered the SOMPA between September 1975 and June 1977. The characteristics of children assessed using the SOMPA are presented in Table 2 by date of assessment, ethnicity, sex, and age range. As would be expected when using a new procedure, very few children were assessed with the SOMPA during the first portion of the 1975-1976 school year. As school psychologists and social workers became more familiar with the system, the number of children assessed with the SOMPA increased markedly beginning in January of that same school year.

Pueblo was selected for study because it was the first SOMPA field-test site in the nation and, therefore, the only district where

Table 2

Referred Pueblo Sample by Age, Sex, Ethnicity, and Date of SOMPA Assessment/Reasseasment

| SCHOOL YEAR | | 1975 - 1976 | | | 1976 1977 | | TOTAL ASSESSED STUDENTS BY SEX, AGE, AND ETHNICITY |
|---|---|---|---|---|---|---|---|
| MONTH | | September | December | January - June | September - December | January - June | |
| ANGLO | Male 5-8 years | 0 | | 42 | 33 | 31 | 106 |
| | Male 9-12 years | 1 | | 34 | 23 | 15 | 73 |
| | Female 5-8 years | 0 | | 21 | 17 | 17 | 55 |
| | Female 9-12 years | 0 | | 19 | 13 | 12 | 44 |
| HISPANIC | Male 5-8 years | 0 | | 23 | 19 | 16 | 58 |
| | Male 9-12 years | 0 | | 37 | 24 | 14 | 75 |
| | Female 5-8 years | 0 | | 14 | 21 | 20 | 55 |
| | Female 9-12 years | 1 | | 17 | 8 | 10 | 36 |
| BLACK | Male 5-8 years | 0 | | 7 | 4 | 5 | 16 |
| | Male 9-12 years | 0 | | 4 | 2 | 1 | 7 |
| | Female 5-8 years | 0 | | 1 | 1 | 0 | 2 |
| | Female 9-12 years | 0 | | 1 | 1 | 0 | 2 |
| TOTAL ASSESSED STUDENTS BY SCHOOL YEAR | | | 222 | | 307 | | 529 |

the SOMPA had been implemented long enough for its effects to be adequately documented. It is a moderately sized town located in southeast Colorado with a population of approximately one hundred thousand persons. The Pueblo District #60 schools serve children of the three racial and cultural backgrounds for which the SOMPA was standardized: Anglo, Black, and Hispanic.

SOMPA data on all Pueblo children who were assessed with the system were obtained from the Program Research for Integrated Multiethnic Education (PRIME), a research center in the Sociology Department at the University of California at Riverside. Pueblo children's SOMPA scores had been shared with researchers at PRIME as a condition of the field-test arrangement. These data had been recorded on the form found in Appendix D, were transferred to a computer disc, and were made available to this researcher upon request.

Additional data on children who had been assessed with the SOMPA were also collected directly from the Pueblo District #60 schools. They were obtained in two ways. First, system-wide data on numbers of children assigned to all special education and support services programs from 1970-1978 were obtained from class rosters. These data were recorded by age, sex, and ethnicity of the student as well as by the specific program in which s/he was enrolled. Additional system-level data were obtained, including information regarding the numbers of instructional, administrative, and support personnel who were employed in the Pueblo District #60 schools from 1970-1978.

Second, for students who had been assessed with the SOMPA, detailed data of their educational placements before and after the SOMPA administration were obtained. For each placement, the minutes per day and days per week the child received services in a variety of subjects were recorded. Since only 27 Black students were assessed with the SOMPA when these data were collected, they were omitted from analysis on the placement variables.

The California Sample

The second sample from which data were obtained was the SOMPA California standardization sample. In order to compare correlations of referred Pueblo children with those taken from the California general population sample, data from the SOMPA: Conceptual and Technical Manual were obtained (Mercer, 1979b).

The SOMPA was developed and standardized on 2,085 California public school children aged 5 through 11 years during the 1972-1973 school year. Characteristics of the California general population sample which was used for standardizing the SOMPA are presented in Table 3. As shown in the table, three independently selected, representative subsamples of students, 699 Anglos, 696 Blacks, and 690 Hispanics (mainly Chicanos and Latinos), were selected in a multi-stage process. The sampling plan was executed in three stages: (a) the selection of school districts within the state, (b) the selection of schools within the districts, and (c) the selection of students within the schools. This procedures allowed for the generalizability of each ethnic subsample to the entire state. Ninety-six school

Table 3

California Standardization Sampling Frame by Age and Sex Comparing Expected Frequencies with Actual Frequencies[a]

| ETHNICITY | Anglo | | Hispanic | | Black | | All Ethnic Groups | | Total |
|---|---|---|---|---|---|---|---|---|---|
| SEX | Male | Female | Male | Female | Male | Female | Male | Female | |
| AGE (in years) | | | | | | | | | |
| 5 | 50 (49) | 50 (48) | 50 (50) | 50 (51) | 50 (45) | 50 (45) | 150 (144) | 150 (144) | 300 (288) |
| 6 | 50 (50) | 50 (52) | 50 (48) | 50 (49) | 50 (54) | 50 (52) | 150 (152) | 150 (153) | 300 (305) |
| 7 | 50 (49) | 50 (50) | 50 (49) | 50 (49) | 50 (51) | 50 (45) | 150 (149) | 150 (144) | 300 (293) |
| 8 | 50 (51) | 50 (50) | 50 (47) | 50 (50) | 50 (46) | 50 (48) | 150 (144) | 150 (148) | 300 (292) |
| 9 | 50 (47) | 50 (52) | 50 (55) | 50 (52) | 50 (54) | 50 (52) | 150 (156) | 150 (156) | 300 (312) |
| 10 | 50 (55) | 50 (46) | 50 (47) | 50 (48) | 50 (50) | 50 (48) | 150 (152) | 150 (142) | 300 (294) |
| 11 | 50 (50) | 50 (50) | 50 (47) | 50 (48) | 50 (51) | 50 (55) | 150 (148) | 150 (153) | 300 (301) |
| | 350 (351) | 350 (348) | 350 (343) | 350 (347) | 350 (351) | 350 (346) | 1050 (1045) | 1050 (1040) | 2100 (2085) |

[a]Expected frequencies are reported first; actual frequencies are reported in parentheses.

Note: From The System of Multicultural Pluralistic Assessment: Conceptual and Technical Manual by J. R. Mercer, 1979b. Copyright © by The Psychological Corporation. Reprinted by permission. All rights reserved.

districts throughout California participated in the standardization of the SOMPA.

Since the assessment literature suggests that minorities are overrepresented in special education programs and since the SOMPA is designed to be a system which is racially and culturally nondiscriminatory, the present study was designed to investigate the effects of implementing the SOMPA in a multi-ethnic school district so that its impact could be adequately determined.

## Procedure

When the present research effort began, the SOMPA had already been administered to the children who were to be studied. Therefore, the initial procedure involved the acquisition of this data from PRIME. Information on the SOMPA for each child had been collected by district personnel in three ways. First, the school psychologist had administered the SOMPA Physical Dexterity Tasks, the Bender Gestalt Visual Motor Test, and the Wechsler Intelligence Scale for Children - Revised (WISC-R) to each child. Second, information on the child's visual acuity, auditory acuity, and weight-height ratio were obtained by the school nurse. Third, the social worker conducted the parent interview to gain information for the SOMPA's Health History Inventories, the Adaptive Behavior Inventory for Children (ABIC), and the Sociocultural Scales. The total information was then integrated to form an individual profile for each child on SOMPA Medical Model, Social System Model, and Pluralistic Model measures as well as on sociocultural background variables. These data were then sent to PRIME

at the University of California at Riverside where they were obtained by this researcher, as previously noted.

The next major effort involved the collection of educational placement data. The present researcher went to Pueblo and trained seven of the school district's clerks to collect and record data from two sources. The first source of placement data was class enrollment rosters. The coders were provided with forms for data collection and were charged with the task of recording the numbers of children in various special education and supportive service programs by age, sex, ethnicity, and type of program. This was done for all special education programs from 1970-1978 in the entire school system. The second source of placement data was from the individual cumulative folders of children who were assessed with the SOMPA. For this group, coders were asked to complete SOMPA Placement Data forms (see Appendix D) for each child by each school year since their first attendance in the Pueblo District #60 Schools. The SOMPA Placement Data forms allowed the coders to note up to three programs in which the child received services as well as the subjects with which s/he received assistance within each program. Data on the number of minutes per day and number of days per week services were provided were also recorded by academic area. These placement data were collected from April 1978 through September 1978.

To provide a qualitative perspective within which all data could be interpreted, personal interviews were held with school district personnel: central office administrators, building-level

administrators, and assessment personnel. Representatives from the Office of Civil Rights in Denver, Colorado, were interviewed to obtain their perspectives on the SOMPA's implementation in Pueblo. Colorado State Department of Education personnel were also interviewed for this purpose. Further details on the qualitative component of this project are found in Appendix E.

## Instrumentation

In this study, scores on all SOMPA measures and placement data were used to answer the questions of the study. From these data some new variables were created. The SOMPA scores as well as the new variables will now be discussed.

### SOMPA Medical Model Measures

Scores on fourteen SOMPA Medical Model measures were obtained. All Medical Model instruments, except the Health History Inventories, are administered directly to the child.

Physical Dexterity Tasks. The Physical Dexterity Tasks are a series of 29 tasks which measure the intactness and capability of the child's motor and sensory pathways. The tasks are grouped into six scales: Ambulation, Equilibrium, Placement, Fine Motor Sequencing, Finger-Tongue Dexterity, and Involuntary Movement. An average Physical Dexterity scaled score is also provided. Tasks in each of the scales can be administered in either English or Spanish.

Bender Visual Motor Gestalt Test. The Bender Gestalt Test is included within the SOMPA to provide a measure of the child's perceptual maturity and possible neurological impairment. With this

test, the child is shown nine cards, one at a time, and is asked to reproduce the design shown on each card. A scaled score for performance on the measure is included in the Medical Model of the SOMPA.

Weight by Height. Weight of a child, when controlled for height and sex, is a good indicator of his/her overall health and well-being. Therefore, a weight by height ratio is included in the SOMPA.

Visual Acuity. The Snellen Test is administered to determine the child's right and left eye visual acuity. This serves as a screening device for possible visual problems.

Auditory Acuity. Hearing sensitivity as measured by an audiometrist or speech clinician is recorded in the SOMPA. The measure is expressed in decibels for both corrected and uncorrected right ear and left ear hearing. Although these scores are to be collected when a child is administered the total SOMPA, their sporadic collection in Pueblo rendered this variable inappropriate for use in any of the analyses of this study.

Health History Inventories. The purpose of the Health History Inventories is to provide systematic information on the past health of each child. The five Health History Inventories contain 45 questions which are assigned among the five: (a) the Prenatal/Postnatal Inventory (10 questions), (b) the Trauma Inventory (6 questions), (c) the Disease and Illness Inventory (23 questions), (d) the Vision Inventory (8 questions), and (e) the Hearing Inventory (3 questions). Structured questions, structured questions with probes, and funnel

questions are used to obtain information from the mother about the child's health history in these areas. Since no information on the Hearing Inventory was available from Pueblo, this inventory is omitted from analyses in the study.

SOMPA Social System Model Measures

Individual child scores on the two Social System measures and their subscales were obtained. These measures will now be presented.

Adaptive Behavior Inventory for Children (ABIC). The purpose of the ABIC is to secure information about each child's adaptation to the social system in which s/he participates. It is composed of 242 questions and organized into six subscales. Scaled scores may be obtained on the ABIC Average as well as on each of the subscales: (a) Family, (b) Community, (c) Peer Relations, (d) Nonacademic School Roles, (e) Earner/Consumer, and (f) Self-Maintenance. In addition, responses of "not allowed," "don t know," and veracity are also noted.

Wechsler Intelligence Scale for Children - Revised (WISC-R). Within the SOMPA, the WISC-R Verbal, Performance, and Full Scale IQs are interpreted as measures of School Functioning Level (SFL). Throughout the remainder of the study, therefore, they shall be referred to as Verbal, Performance, and Full Scale SFLs. The SFL scores are included in the SOMPA as measures of the child's academic functioning in the public schools.

SOMPA Pluralistic Model Measures

Since the SFL scores which are corrected for sociocultural background of the child are the measures in the SOMPA which comprise

the most vigorously challenged component of the system, an explanation of their development is needed. The SOMPA provides a way to deal with scores of Anglo, Black, and Hispanic children from diverse cultural backgrounds by providing multiple regression equations which predict average scores of children having the same score profiles on the SOMPA Sociocultural Scales. This procedure, which yields scores of "Estimated Learning Potential (ELP)" allows for as many normative groups as there are combinations of raw scores on the Sociocultural Scales. Score differences between the SFLs and the predicted IQ scores are converted to scaled scores (ELPs) which show where a child scores in relation to her/his own sociocultural group. Children who score 100 or higher on the SFL have ELPs which are identical to the SFL. When the WISC-R scores are corrected for sociocultural variance by the four Sociocultural Scales, they yield three ELP scores: Verbal, Performance, and Full Scale.

SOMPA Sociocultural Scales

A discussion of the Sociocultural Scales is separated from the Pluralistic Model since they are used with the WISC-R to determine each child's ELP. These four scales are intended as measures of the social and cultural characteristics of the child's family. The Family Size scale contains one question; the Family Structure scale, three; the Socioeconomic Status scale, three; and the Urban Acculturation scale, four. The full set of questions may be found in the Parent Interview Record Form (Appendix C). These questions are posed to the parent during the same interview in which information on the ABIC and Health

History Inventories is obtained. With these scales, the child's sociocultural profile in relation to both his/her own sociocultural group and the dominant Anglo culture may be observed.

Placement Variable

In order that information obtained on each student's educational placement before and after SOMPA administration could be presented, a placement variable was constructed which collapsed some categories of placements and which highlighted resource part-time services. First, fifteen placement categories were generated but after some were found to be empty, the variable was narrowed to nine placement options. These placements were:

1. Regular education full time
2. Regular education with educable mentally retarded (EMR) placement (EMR placement less than 15 hours weekly)
3. Regular education with learning disabled (LD) placement (LD placement less than 15 hours weekly)
4. Regular education with behavior disorder (BD) placement (BD placement less than 15 hours weekly)
5. Regular education with language therapy (language therapy less than 15 hours weekly)
6. Regular education with language therapy and EMR, LD, or BD placement (language therapy less than 15 hours weekly and either EMR, LD or BD placement less than 15 hours weekly)
7. Regular education with other placement (services for the physically handicapped, the visually, aurally, or multiply handicapped less than 15 hours weekly)

8. EMR full time (EMR placement more than 15 hours weekly)
9. Other placements full time (services for the physically handicapped, the visually, aurally, or multiply handicapped more than 15 hours weekly).

Several decision rules were made in creating the placement variable. For students assessed in the fall of the school year, the previous school year was treated as the year before SOMPA assessment. The school year in which they were assessed was treated as the year after SOMPA assessment. For students assessed in the spring, that year in which the assessment occurred was considered the year before SOMPA assessment while the following school year was treated as the year after assessment. If a student was enrolled in any special education program during a school year, that program was coded as his/her placement for the year.

Profile Variable

From the SOMPA Physical Dexterity (PD) Average score, the ABIC Average score, the SFL Full Scale score, and the ELP Full Scale score, a profile variable for each child was generated. The purpose of the variable was to allow one to easily see if children with certain patterns of passing/failing on these measures were assigned to similar placements.

Eight SOMPA profiles were created:

1. PPP = pass PD, pass ABIC and/or SFL, pass ELP
2. PPF = pass PD, pass ABIC and/or SFL, fail ELP

3. PFF = pass PD, fail ABIC and SFL, fail ELP
4. PFP = pass PD, fail ABIC and SFL, pass ELP
5. FPP = fail PD, pass ABIC and/or SFL, pass ELP
6. FPF = fail PD, pass ABIC and/or SFL, fail ELP
7. FFP = fail PD, fail ABIC and SFL, pass ELP
8. FFF = fail PD, fail ABIC and SFL, fail ELP.

In creating the portion of this variable which deals with the Social System Model measures, the ABIC and the SLF, it should be noted that the student had to fail both of the measures to be counted as failing on that portion of the variable. Similarly, to pass the Social System Model portion of the variable, the student had to pass only one of the two measures. This practice is consistent with Mercer's philosophical posture that the child must fail both measures before s/he can be classified and placed in special education. Such a procedure leads to more children receiving passing scores on the measure, thus theoretically remaining in regular education programs.

It is important to note that only students who had complete data on the Physical Dexterity Average, the ABIC Average, the SFL Full Scale, the ELP Full Scale, placement before SOMPA administration, placement after SOMPA administration and ethnicity were included in analyses of the placement and profile data. This step assured comparability among tables presenting data on placement and profile.

In summary, these procedures provided data on SOMPA Medical Model measures, Social System Model measures, Pluralistic Model measures, Sociocultural Scale scores, placement information and profile characterization.

## Data Analysis

Generally, simple descriptive statistics are presented and interpreted since the large sample size generally makes even small correlations and differences statistically significant. Levels of significance are nevertheless reported along with the descriptive data whenever appropriate. Although multiple regression analysis is employed in relating the Sociocultural Scales to other variables in order to replicate the findings of Mercer, more typically univariate analyses and zero order correlations are reported. Initially, it had been planned to submit to factor analysis the full set of intercorrelations reported in the "Internal Validity" section of the results chapter. However, the large number of variables relative to the sample size makes this inappropriate as does the lack of experimental independence of some of the measures, especially the Estimated Learning Potential and the School Functioning Level measures.

In the next chapter, results of the analyses carried out with the quantitative data are presented and discussed.

# CHAPTER V

## RESULTS AND DISCUSSION

Data collection on the study extended over a five month period during the spring and summer of 1978. A report of the quantitative data and a discussion of the findings for each of the seven issues contained in Chapter III will be presented next. Results based on qualitative data are reported in Appendix E.

Table 4 presents descriptive data for the Pueblo (referred) sample, and the California standardization (general population) sample on the SOMPA measures. As noted in the table, students in the Pueblo sample scored lower than did students from the California sample on most Medical Model measures. Pueblo means were also found to be lower than California means on SOMPA System Model measures. Since the ABIC was standardized on the California sample, means for all subscales within that instrument are 50.0. Pueblo means on the ABIC ranged from 40.93 (Community) to 48.45 (Peer). Eleven points separated the SFL-FS scores found in Pueblo and California.

On SOMPA Pluralistic Model measures, Pueblo scores were, again, lower than California scores. As noted, the Pueblo ELP-FS was 15 points lower than was the California ELP-FS.

California students obtained higher scores on two of the four SOMPA Sociocultural Scales: Family Structure and Socioeconomic Status. Pueblo students obtained higher scores than did the California students on Family Size and Urban Acculturation.

Table 4

Descriptive Data for Pueblo and California Samples on SOMPA Measures

| POPULATION | PUEBLO (Referred Sample) | | | CALIFORNIA (General Population Sample) | | |
|---|---|---|---|---|---|---|
| MEASURES | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N |
| MEDICAL MODEL | | | | | | |
| Physical Dexterity Tasks | | | | | | |
| Placement | 39.62 | 19.59 | 439 | 50.2 | 12.3 | 1851 |
| Ambulation | 41.20 | 20.45 | 438 | 49.9 | 13.9 | 1772 |
| Involuntary Movement | 42.17 | 16.66 | 439 | 50.0 | 14.2 | 1813 |
| Fine Motor Sequencing | 49.85 | 16.96 | 439 | 49.9 | 15.2 | 1830 |
| Equilibrium | 57.65 | 17.94 | 439 | 50.5 | 14.1 | 1885 |
| Finger-Tongue Dexterity | 36.61 | 18.95 | 439 | 50.0 | 14.8 | 1628 |
| PD Average | 43.20 | 13.08 | 437 | 50.0 | 7.6 | 1892 |
| Bender Gestalt Overall Score | 30.06 | 19.22 | 528 | 50.0 | 15.0 | 2085 |
| Visual Acuity | 28.23 | 15.55 | 381 | 24.29 | 8.00 | 1831 |
| Health History Inventories | | | | | | |
| Pre/Post-natal | 4.46 | 5.43 | 594 | 3.06 | 4.13 | 2085 |
| Trauma | 4.89 | 6.62 | 596 | 2.93 | 4.57 | 2085 |
| Illness | 3.08 | 3.51 | 597 | 1.94 | 2.50 | 2085 |
| Vision | .97 | 1.68 | 597 | .66 | 1.29 | 2085 |
| Hearing | | no data | | .07 | .28 | 2085 |
| SOCIAL SYSTEM MODEL | | | | | | |
| ABIC | | | | | | |
| Family | 43.39 | 14.62 | 597 | 50 | 15 | 2085 |
| Community | 40.93 | 14.27 | 597 | 50 | 15 | 2085 |
| Peer | 48.45 | 15.88 | 597 | 50 | 15 | 2085 |
| Nonacademic School | 42.20 | 13.82 | 597 | 50 | 15 | 2085 |
| Earner/Consumer | 44.94 | 14.70 | 597 | 50 | 15 | 2085 |
| Self-Maintenance | 46.30 | 15.22 | 597 | 50 | 15 | 2085 |
| ABIC Average | 44.70 | 13.04 | 597 | 50 | 15 | 2085 |
| School Functioning Level (WISC-R) | | | | | | |
| Verbal | 82.93 | 15.14 | 548 | 92.73 | 15.89 | 1932 |
| Performance | 86.22 | 15.46 | 548 | 97.10 | 14.82 | 1943 |
| Full Scale | 83.07 | 14.82 | 548 | 94.43 | 14.99 | 1913 |
| PLURALISTIC MODEL (WISC-R WITH PLURALISTIC NORMS) | | | | | | |
| Verbal | 88.38 | 15.23 | 543 | 100.96 | 14.77 | 1599 |
| Performance | 87.84 | 15.97 | 543 | 101.65 | 14.57 | 1607 |
| Full Scale | 86.30 | 15.29 | 543 | 101.36 | 14.70 | 1583 |
| SOCIOCULTURAL SCALES | | | | | | |
| Family Size | 7.98 | 3.82 | 604 | 7.91 | 3.73 | 2081 |
| Family Structure | 13.34 | 5.53 | 604 | 14.33 | 5.18 | 1875 |
| Socioeconomic Status | 4.72 | 3.59 | 603 | 5.99 | 3.38 | 2075 |
| Urban Acculturation | 58.21 | 14.01 | 603 | 53.10 | 19.83 | 1906 |

In summary, several points may be made regarding both the nature of the populations and the statistics which have been obtained from each. First, the proportion of Anglos, Hispanics, and Blacks in each sample differed. The Pueblo sample contained 278 (55%) Anglos and 224 Hispanic (45%) students while the California sample was comprised of 699 (33%) Anglo, 690 (33%) Hispanic, and 697 (33%) Black students. Secondly, the Pueblo sample was composed of students referred for possible special education placement in one school district in Colorado; the California population was obtained through a state-wide random sampling procedure. Regarding the statistics reported in Table 4 for these two samples, it should be noted that the standardization sample has "fixed" means of 50 with standard deviations of 15 on the ABIC as well as other standardized means. It was expected that the referred population would obtain lower scores on SOMPA measures than would students from a general population sample.

## The Issue of Internal Validity

The issue of internal validity of the SOMPA as a measurement system involves the examination of consistency among measures of similar constructs and the independence of measures of differing constructs. The answers to the specific questions now posed all contribute to an evaluation of the extent to which the SOMPA meets its claims of multidimensionality.

Question 1: What are the intercorrelations among measures within the Physical Dexterity Tasks, the Health History Inventories, and the ABIC?

Physical Dexterity Tasks

Table 5 presents the intercorrelations among the scales scores of the Physical Dexterity Tasks. In both the Pueblo referred sample and California standardization sample, correlations between subtests and total score, corrected for contamination, were somewhat higher than correlations among subtests. All Pueblo intercorrelations and almost all California intercorrelations were significant beyond the .001 level. In the California sample, the relatively small intercorrelations confirmed the interpretation that the Physical Dexterity Tasks are fairly independent measures of different sensory and motor functions. In the atypical Pueblo sample, all subscale and total correlations were moderate although they were significantly higher thar with the California sample, a finding which is not suprising since a referred population may have more medically related problems than a general population sample.

Health History Inventories

Table 6 reports the intercorrelations among raw scores for the Prenatal/Postnatal, Trauma, Illness, and Vision portions of the Health History Inventories. Data on the Hearing Inventory were not available from the Pueblo sample, therefore, that inventory was omitted from the correlational analysis. As noted in the table, all correlations were

Table 5

A Comparison of Pueblo and California Intercorrelations Among Physical Dexterity Tasks
Scaled Scores for Total Samples, Anglos, and Hispanics

| PHYSICAL DEXTERITY TASKS | Equilibrium | | Fine Motor Sequencing | | Ambulation | | Placement | | Involuntary Movement | | Finger-Tongue Dexterity | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | r | | r | | r | | r | | r | | r | |
| POPULATION | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA |
| TOTAL SAMPLE | | | | | | | | | | | | |
| Fine Motor Sequencing | .49*** | .16*** | | | | | | | | | | |
| Ambulation | .38*** | .12*** | .45*** | .12*** | | | | | | | | |
| Placement | .35*** | .22*** | .30*** | .24*** | .60*** | .23*** | | | | | | |
| Involuntary Movement | .59*** | -- | .47*** | -- | .57*** | .18*** | .49*** | .24*** | | | | |
| Finger-Tongue Dexterity | .38*** | .06** | .43*** | .11*** | .47*** | .27*** | .41*** | .17*** | .42*** | .10*** | | |
| Physical Dexterity Total[a] | .60*** | .26*** | .60*** | .27*** | .64*** | .36*** | .56*** | .42*** | .68*** | .20** | .58*** | .32*** |
| ANGLO | | | | | | | | | | | | |
| Fine Motor Sequencing | .48*** | .15*** | | | | | | | | | | |
| Ambulation | .38*** | .17*** | .47*** | .10*** | | | | | | | | |
| Placement | .27*** | .16*** | .29*** | .26*** | .56*** | .27*** | | | | | | |
| Involuntary Movement | .62*** | -- | .45*** | -- | .56*** | .13*** | .49*** | .16*** | | | | |
| Finger-Tongue Dexterity | .36*** | .09* | .36*** | .17*** | .42*** | .18*** | .40*** | .15*** | .40*** | -- | | |
| Physical Dexterity Total[a] | .57*** | .25*** | .57*** | .27*** | .63*** | .33*** | .54*** | .39*** | .69*** | .09* | .56*** | .26*** |
| HISPANIC | | | | | | | | | | | | |
| Fine Motor Sequencing | .47*** | .16*** | | | | | | | | | | |
| Ambulation | .36*** | .16*** | .43*** | .17*** | | | | | | | | |
| Placement | .41*** | .26*** | .27*** | .21*** | .62*** | .18*** | | | | | | |
| Involuntary Movement | .55*** | -- | .48*** | -- | .57*** | .16*** | .49*** | .27*** | | | | |
| Finger-Tongue Dexterity | .38*** | -- | .50*** | .13*** | .50*** | .22*** | .38*** | .10* | .41*** | -- | | |
| Physical Dexterity Total[a] | .61*** | .25*** | .61*** | .32*** | .63*** | .35*** | .54*** | .39*** | .66*** | .16*** | .55*** | .27*** |

* $p < .05$
** $p < .01$
*** $p < .001$
-- not significant

Referred Pueblo Sample
Total N = 437-439
Anglo N = 226-227
Hisp. N = 186-187

Typical California Sample
Total N = 1235-1864
Anglo N = 384-646
Hisp. N = 404-618

[a]All subtest correlations with Physical Dexterity Total have been corrected for contamination.



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Table 6

A Comparison of Pueblo and California Linear Intercorrelations
Among the Raw Scores for the Health History Inventories

| | Trauma | | Illness | | Vision | |
|---|---|---|---|---|---|---|
| | r | | r | | r | |
| POPULATION | Pueblo | CA | Pueblo | CA | Pueblo | CA |
| Prenatal/Postnatal | .16*** | .14*** | .21*** | .17*** | .09* | .12*** |
| Trauma | -- | -- | .34*** | .28*** | .14*** | .14*** |
| Illness | -- | -- | -- | -- | .16*** | .15*** |
| Vision | -- | -- | -- | -- | -- | -- |

* $p < .05$
** $p < .01$
*** $p < .001$

California N = 2085
Pueblo N = 596-597

low and in a positive direction. The largest correlation in the California sample was .28 between scores on the Trauma Inventory and scores on the Illness Inventory (p .001). The largest correlation in the Pueblo sample was .34 between these same two inventories (p .001). Most other intercorrelations between scores were comparable for the Pueblo and California samples. It should be noted that although these correlations are significant, they are small.

ABIC

Table 7 presents the intercorrelations among the ABIC subscales which measure social roles in six different social systems. For both the Pueblo and California samples, it also presents correlations between the ABIC subscales and the ABIC Average (corrected for contamination). Intercorrelations are presented for the total sample and for each of the ethnic groups separately.

For the California sample, all subscale/total correlations were relatively high, .75 and above. Intercorrelations among the scaled scores of the subscales were also relatively high, with most correlations above .70 and none below .63. For both samples, all correlations were significant beyond the .001 level.

For the Pueblo sample, subscale/total correlations were almost identical to those from the California sample, the lowest correlation being .71. Subscale to subscale intercorrelations were also similar, none being below .64 and most above .70.

Table 7

A Comparison of Pueblo and California Intercorrelations of ABIC Scaled Scores for Total Samples, Anglos, and Hispanics[a]

| ABIC SUBSCALES | Family | | Community | | Peer | | Nonacademic School | | Earner/Consumer | | Self-Maintenance | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | r | | r | | r | | r | | r | | r | |
| POPULATION | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA |
| TOTAL SAMPLE | | | | | | | | | | | | |
| Community | .79 | .79 | | | | | | | | | | |
| Peer | .69 | .71 | .65 | .69 | | | | | | | | |
| Nonacademic School | .78 | .77 | .80 | .78 | .71 | .71 | | | | | | |
| Earner/Consumer | .79 | .77 | .79 | .80 | .64 | .66 | .75 | .72 | | | | |
| Self-Maintenance | .82 | .83 | .69 | .74 | .68 | .73 | .73 | .77 | .74 | .76 | | |
| ABIC Average[b] | .88 | .87 | .84 | .85 | .73 | .77 | 84 | .84 | .84 | .83 | .82 | .86 |
| ANGLO | | | | | | | | | | | | |
| Community | .80 | .80 | | | | | | | | | | |
| Peer | .67 | .68 | .64 | .68 | | | | | | | | |
| Nonacademic School | .79 | .76 | .82 | .76 | .72 | .68 | | | | | | |
| Earner/Consumer | .80 | .77 | .80 | .78 | .64 | .63 | .77 | .68 | | | | |
| Self-Maintenance | .83 | .83 | .72 | .74 | .66 | .68 | .75 | .75 | .76 | .75 | | |
| ABIC Average[b] | .88 | .87 | .86 | .86 | .71 | .75 | .87 | .82 | .85 | .81 | .83 | .85 |
| HISPANIC | | | | | | | | | | | | |
| Community | .79 | .80 | | | | | | | | | | |
| Peer | .70 | .73 | .67 | .73 | | | | | | | | |
| Nonacademic School | .77 | .78 | .79 | .77 | .70 | .73 | | | | | | |
| Earner/Consumer | .79 | .77 | .77 | .81 | .66 | .68 | .72 | .72 | | | | |
| Self-Maintenance | .79 | .82 | .68 | .74 | .70 | .73 | .71 | .77 | .73 | .76 | | |
| ABIC Average[b] | .87 | .88 | .84 | .86 | .76 | 79 | .83 | .84 | .83 | .83 | .81 | .85 |

[a] All California and Pueblo correlations are significant, $p < .001$.

[b] All correlations between the subscale scores and the ABIC Average have been corrected for contamination.

Question 2: What are the correlations of measures from different instruments within models?

Medical Model Measures

Table 8 presents the correlations between Bender Gestalt scaled scores and the Physical Dexterity (PD) Tasks as well as correlations between Visual Acuity and the Physical Dexterity Tasks for the total samples. These data are not presented separately for each ethnic group since data from the California sample suggest that such differences in Medical Model measures are minimal.

For the California sample, all of the correlations between the Bender scaled scores and the Physical Dexterity Tasks were low but positive and significant beyond the .001 level. The correlation of the Bender Gestalt with the Physical Dexterity Average was .32 ($p < .001$).

For the Pueblo sample, all correlations between the Bender Gestalt and the Physical Dexterity Tasks were moderate and in a positive direction. The correlation of the Bender and the PD Average was .55 ($p < .001$). The correlations found within the Pueblo sample for these measures were much higher than those found in the California sample.

For both the California and Pueblo samples, correlations for Visual Acuity and the Physical Dexterity Tasks were very low and negative. This finding was expected since Visual Acuity is expressed in raw scores while the Physical Dexterity Tasks are scaled scores. The overall low correlations for both samples on these measures

Table 8

A Comparison of Pueblo and California Correlations
Among Physical Dexterity Tasks, Visual Acuity, and the Bender Gestalt

| MEDICAL MODEL MEASURES | Bender Gestalt[+] | | Visual Acuity[++] | |
|---|---|---|---|---|
| | r | | r | |
| POPULATION | Pueblo | CA | Pueblo | CA |
| Physical Dexterity Tasks | | | | |
| Placement | .41*** | .13*** | -.06 | -.07** |
| Ambulation | .41*** | .26*** | -.10* | -.05* |
| Involuntary Movement | .45*** | .15*** | -.01 | -.10*** |
| Fine Motor Sequencing | .34*** | .15*** | -.04 | -.05* |
| Equilibrium | .45*** | .10*** | -.05 | -- |
| Finger-Tongue Dexterity | .38*** | .26*** | -.08 | -.07** |
| Physical Dexterity Average | .55*** | .32*** | -.09 | -.08*** |

* $p < .05$
** $p < .01$
*** $p < .001$

[+]California N = 2085
[+]Pueblo N = 432-522

[++]California N = 1250-1831
[++]Pueblo N = 331-380

indicated that Visual Acuity scores and Physical Dexterity measures may not be adequately predicted one from the other.

Table 9 presents the correlations of the raw scores for the Health History Inventories with the scaled scores of the Physical Dexterity Tasks, the Bender Gestalt, and the Visual Acuity raw scores. Again, correlations of the Hearing Inventory of the Health History Inventories with the other Medical Model measures are not presented because the data were not available from the Pueblo sample. Of the four Health History Inventories presented, the Prenatal/Postnatal Inventory was a better predictor than the other inventories of poor performance on the Physical Dexterity Tasks and the Bender Gestalt though even here the highest correlation was -.15.

In summary, though the Prenatal/Postnatal Inventory was found to have some relationship to poor performance on the Physical Dexterity Tasks and the Bender Gestalt for both samples, none of the health inventory measures showed even a moderate correlations with the other Medical Model measures.

Social System Model Measures

Table 10 reports the correlations of the WISC-R scores (School Functioning Level) and the Adaptive Behavior Inventory for Children (ABIC) for the Pueblo and California samples. As shown, all correlations between the School Functioning Level (SFL) scores and the ABIC subscales were low moderate. Correlations for the California sample were even lower although most were significant. For the Pueblo sample, Full Scale SFL scores correlated .39 with the ABIC Average

Table 9

A Comparison of Pueblo and California Correlations of Raw Scores on the Health History Inventories and Scaled Scores of Other Measures in the Medical Model

| HEALTH HISTORY INVENTORIES | Prenatal/ Postnatal | | Trauma | | Illness | | Vision | |
|---|---|---|---|---|---|---|---|---|
| | r | | r | | r | | r | |
| POPULATION | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA |
| Physical Dexterity Tasks | | | | | | | | |
| Equilibrium | -.12** | -- | -.01 | - | -.07 | -.05* | -.07 | -- |
| Fine Motor Sequencing | -.07 | -.06** | .01 | -- | -.07 | -- | .02 | -.05** |
| Ambulation | -.10* | -.07** | -.06 | -- | -.09* | -.05* | .03 | -.06** |
| Placement | -.15*** | -- | -.04 | -.04* | -.02 | -.07** | .03 | -.06** |
| Involuntary Movement | -.10* | -- | .07 | -- | -.08 | -- | .03 | -.05** |
| Finger-Tongue Dexterity | -.11* | -.07** | -.07 | -- | -.06 | -- | .03 | -- |
| Physical Dexterity Total | .13** | -.07** | -.05 | -- | -.09* | -.06** | .06 | -.07** |
| Bender Gestalt Overall | -.15*** | -.12*** | -.01 | -- | -.13*** | -.08*** | -.05 | -.07** |
| Better Monocular Acuity | .13** | -- | 05 | -- | .09* | -- | .16*** | -.14*** |

* p < .05
** p < .01
*** p < .001

California N = 1950
Pueblo N = 373-515

Table 10

A Comparison of Pueblo and California Linear Correlations Between WISC-R (SFL) Scores and the ABIC for Total Samples

| SFL SCALES | Verbal | | Performance | | Full Scale | |
|---|---|---|---|---|---|---|
| | r | | r | | r | |
| POPULATION | Pueblo | CA | Pueblo | CA | Pueblo | CA |
| ABIC | | | | | | |
| Family | .33*** | -- | .30*** | -- | .34*** | -- |
| Community | .35*** | .14*** | .29*** | .06*** | .35*** | .11*** |
| Peer | .30*** | .18*** | .27*** | .11*** | .31*** | .16*** |
| Nonacademic School | .36*** | .19*** | .29*** | .13*** | .35*** | .17*** |
| Earner/Consumer | .33*** | .11*** | .27*** | .05* | .33*** | .09*** |
| Self-Maintenance | .35*** | .16*** | .31*** | .11*** | .36*** | .15*** |
| ABIC Average | .38*** | .15*** | .33*** | .09*** | .39*** | .13*** |

* $p < .05$
*** $p < .001$

while for the California sample, Full Scale SFL scores correlated only .13 with ABIC scores.

Question 3: What are the correlations between the measures in the three different models?

Medical Model with Social System Model

Table 11 presents correlations of the Medical Model measures with the ABIC of the Social System Model. For the Pueblo sample, all correlations of ABIC subscales with the Physical Dexterity Tasks were low. Correlations between the ABIC and the Physical Dexterity Tasks were consistently higher for the Pueblo sample than those found for the California sample although these too were modest. (Correlations of the ABIC Average and the Physical Dexterity Average were .23 for the Pueblo sample and .10 for the California sample.) This finding was also true for the Bender Gestalt-ABIC correlations (Pueblo $r$ = .22; California $r$ = .08).

Table 12 reports correlations between SFL (WISC-R IQ) and Medical Model measures for both samples. All correlations between SFL scores and all Physical Dexterity Tasks were significant beyond the .001 level for both Pueblo and California although only low to moderate (Full Scale with Total PD $r$'s of .26 and .27, respectively). This finding was repeated with the Bender Gestalt-Physical Dexterity Total (Pueblo $r$ = .38; California $r$ = .46). It is interesting to note that while Pueblo correlations of SFL with PD Tasks were greater than those found in the California data, Bender Gestalt correlations with SFL were less than those found in the California data.

Table 11

A Comparison Among Pueblo and California Correlations of the ABIC and Medical Model Measures for the Total Samples[a]

| ABIC SUBSCALES | Family | | Community | | Peer | | Nonacademic School | | Earner/ Consumer | | Self-Maintenance | | ABIC Average | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | r | | r | | r | | r | | r | | r | | r | |
| POPULATION | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA |
| MEDICAL MODEL MEASURES | | | | | | | | | | | | | | |
| Physical Dexterity Tasks | | | | | | | | | | | | | | |
| Placement | .18*** | .05** | .15*** | -- | .14** | .09** | .14*** | .07*** | .21*** | .04* | .19*** | .06** | .19*** | .07** |
| Ambulation | .32*** | .06** | .29*** | -- | .28*** | .11*** | .31*** | .09*** | .33*** | .06** | .31*** | .10*** | .34*** | .08*** |
| Involuntary Movement | .17*** | .05** | .10* | .05* | .13** | .11*** | .12*** | .09*** | .12** | .04* | .16*** | .09*** | .14*** | .08*** |
| Fine Motor Sequencing | .19*** | -- | .19*** | -- | .16*** | .04*** | .18*** | .04* | .17*** | -- | .18*** | .04* | .20*** | -- |
| Equilibrium | .13** | -- | .08* | -- | .10* | .04* | .07 | .04* | .11* | -- | .11* | .05* | .10* | -- |
| Finger-Tongue Dexterity | .13** | -- | .13** | -- | .14** | .05* | .15** | .06** | .13** | -- | .15*** | .07** | .15*** | -- |
| PD Average | .23*** | .07** | .19*** | .04* | .19*** | .13*** | .20*** | .12*** | .22*** | .05** | .23*** | .12*** | .23*** | .10*** |
| Bender Gestalt | | | | | | | | | | | | | | |
| Overall Score | .20*** | -- | .16*** | -- | .22*** | .11*** | .20*** | .10*** | .15*** | .04** | .24*** | .14** | .22*** | .08*** |
| Visual Acuity | -.08 | -.06** | -.05 | -- | -.03 | .09*** | -.04 | .06** | -.06 | -- | -.01 | -.06** | -.06 | -.06** |
| Health History Inventories | | | | | | | | | | | | | | |
| Pre/Post-natal | -.07 | -.06** | -.05 | -- | -.08* | -.05* | -.07* | .05** | -.03 | -- | -.05 | .08*** | -.07 | -.05** |
| Trauma | -.05 | -- | .02 | .04* | -.04 | -- | -.06 | -- | .01 | .06** | -.05 | - | -.07 | -- |
| Illness | -.09* | -.06** | -.05 | - | -.09* | -.09*** | -.13 | -- | -.08* | -- | -.12** | -.07*** | -.11** | -.05** |
| Vision | -.06 | -- | -.03 | - | -.08* | -.05** | -.07* | -- | -.04 | -- | -.12*** | -.05* | -.08* | -- |

[a]Scores for Physical Dexterity Tasks and the Bender Gestalt Test are scaled scores; therefore, positive correlations with ABIC scaled scores were hypothesized. Since Visual Acuity and Health History Inventories are raw scores, negative correlations with the ABIC were expected.

* $p < .05$
** $p < .01$
*** $p < .001$



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Table 12

A Comparison of Pueblo and California Correlations
Among Verbal, Performance, and Full Scale SFL Scores and Medical Model Measures

| SCHOOL FUNCTIONING LEVEL | Verbal | | Performance | | Full Scale | |
|---|---|---|---|---|---|---|
| | r | | r | | r | |
| POPULATION | Pueblo | CA | Pueblo | CA | Pueblo | CA |
| MEDICAL MODEL MEASURES | | | | | | |
| Physical Dexterity | | | | | | |
| Placement | .17*** | .09*** | .25*** | .13*** | .22*** | .11*** |
| Ambulation | .24*** | .15*** | .29*** | .23*** | .28*** | .20*** |
| Involuntary Movement | .22*** | .08*** | .23*** | .10*** | .24*** | .10*** |
| Motor Sequencing | .27*** | .16*** | .27*** | .16*** | .29*** | .17*** |
| Equilibrium | .24*** | .10*** | .28*** | .12*** | .28*** | .12*** |
| Finger-Tongue Dexterity | .30*** | .19*** | .36*** | .26*** | .35*** | .24*** |
| Total Physical Dexterity | .30*** | .22*** | .37*** | .29*** | .36*** | .27*** |
| Bender Gestalt Overall Score | .29*** | .36*** | .40*** | .49*** | .38*** | .46*** |
| Visual Acuity | -.02 | 04* | -.06 | .06** | -.04 | .05** |
| Health History Inventories | | | | | | |
| Pre/Post-natal | -.11** | -.06*** | -.11** | -.06*** | -.12** | -.07*** |
| Trauma | -.05 | - | -.06 | -- | -.06 | -- |
| Illness | .13*** | -.06*** | -.10** | -.07*** | -.12** | -.06*** |
| Vision | -.07* | -.05* | -.09* | -.06*** | -.09* | -.06*** |

* $p < .05$
** $p < .01$
*** $p < .001$

California N = Total Sample
Pueblo N = 381-536

114

Medical and Social System with Pluralistic Model

Table 13 presents the correlations of the Estimated Learning Potential (ELP) from the Pluralistic Model with scores on the Medical Model measures and the Social System Model measures for the Pueblo sample only. (No data for these comparisons were available from the California sample.) Moderate correlations were found between the Physical Dexterity Tasks and the ELP. The PD Average correlated .45 with Full Scale ELP. The Bender Gestalt also correlated moderately with ELP ($r$ = .36 with Full Scale). There were no correlations above .10 between Visual Acuity, the Pre/Post-Natal Inventory, or the Vision Inventory and ELP scores. Modest correlations were found between the Trauma Inventory and ELP (Trauma-Full Scale ELP $r$ = -.13, $p < .05$). This pattern was also present in the correlations between the Illness Inventory with ELP (Illness-Full Scale ELP $r$ = -.17, $p < .01$).

All ABIC subscales correlated moderately with ELP scores. The correlation of the ABIC Average with Full Scale ELP was .38.

Question 4: How do the Sociocultural Scales correlate with the SOMPA measures?

Correlations with the Physical Dexterity Tasks. Table 14 reports the correlations of the four Sociocultural Scales with the Physical Dexterity Tasks. As noted, very low correlations were found; all but two correlations were .11 or lower. The two exceptions to this were found with the correlations between Family Structure and Placement ($r$ = -.16, $p < .001$ for Pueblo) and Family Size with Fine Motor Sequencing ($r$ = -.15, $p < .001$ for Pueblo).

Table 13

A Comparison of Pueblo Correlations Across
Medical Model, Social System Model, and Pluralistic Model Measures

| | PLURALISTIC MODEL MEASURES | | |
|---|---|---|---|
| | Verbal ELP | Performance ELP | Full Scale ELP |
| | r | r | r |
| MEDICAL MODEL MEASURES | | | |
| Physical Dexterity Tasks | | | |
| Placement | 32*** | .35*** | .37*** |
| Ambulation | .28*** | .29*** | .32*** |
| Involuntary Movement | .26*** | .31*** | .32*** |
| Fine Motor Sequencing | .28*** | .27*** | .30*** |
| Equilibrium | .22*** | .29*** | .27*** |
| Finger-Tongue Dexterity | .34*** | .44*** | .43*** |
| PD Average | .38*** | .43*** | .45*** |
| Bender Gestalt | | | |
| Overall Score | .27*** | .38*** | .36*** |
| Visual Acuity | -.07 | -.10 | -.09 |
| Health History Inventories | | | |
| Pre/Post-natal | -.07 | -.07 | -.08 |
| Trauma | -.10* | -.12* | -.13* |
| Illness | -.17** | -.16** | -.17** |
| Vision | -.09 | -.08 | -.10* |
| SOCIAL SYSTEM MODEL MEASURES | | | |
| ABIC | | | |
| Family | .32*** | .32*** | .34*** |
| Community | .32*** | .31*** | .34*** |
| Peer | 24*** | .25*** | .27*** |
| Nonacademic School | .28*** | .27*** | .29*** |
| Earner/Consumer | .36*** | .33*** | .36*** |
| Self-Maintenance | .38*** | .37*** | .40*** |
| ABIC Average | .36*** | .35*** | .38*** |

* $p < .05$
** $p < .01$
*** $p < .001$

Table 14

A Comparison of the Pueblo and California Correlations between the Sociocultural Scales and Scaled Scores of the Physical Dexterity Tasks for Total Samples

| SOCIOCULTURAL SCALES | Urban Acculturation | | Socioeconomic Status | | Family Structure | | Family Size | |
|---|---|---|---|---|---|---|---|---|
| | r | | r | | r | | r | |
| POPULATION | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA |
| Physical Dexterity Tasks | | | | | | | | |
| Placement | -.02 | - | -.11** | .05* | -.16*** | — | -.01 | -- |
| Ambulation | .03 | -- | .00 | -- | -.10* | -- | .01 | -.06* |
| Involuntary Movement | .06 | .05* | .04 | .06** | .03 | -.07*** | -.06 | -- |
| Fine Motor Sequencing | .11* | -- | .07 | - | .07 | -- | -.15*** | -- |
| Equilibrium | .08 | -- | .03 | -- | .03 | -- | .00 | -- |
| Finger-Tongue Dexterity | .08* | .09*** | .02 | .09*** | .02 | -- | -.10* | .04* |
| Physical Dexterity Total | .05 | -- | .05 | .09*** | -.01 | .05** | -.07 | -- |

* p < .05
** p < .01
*** p < .001

California
Total N = 1153-1907

Pueblo
Total N = 433

Correlations with the Health History Inventories. Table 15 presents Pueblo and California correlations of the Sociocultural Scales with the Health History Inventories. All correlations were again very low, none greater than .11.

Correlations with the ABIC. Table 16 reports Pueblo and California correlations and multiple correlations between ABIC scaled scores and the Sociocultural Scales. Correlations for the Total Sample, Anglos and Hispanics are presented. Multiple correlations were found to be moderate for the Pueblo sample, but low for the California sample ($r$ with Total ABIC of .35 and .16 for the Total Sample).

The multiple correlation is almost entirely accounted for by the Urban Acculturation measure ($r$ of Total ABIC with Urban Acculturation for Total Sample = .34 for Pueblo and .15 for California). Socioeconomic Status showed a low but consistent correlation for the Pueblo sample with ABIC measures ($r$ = .20 with Total ABIC for Total Sample) Family Size showed a similar pattern, but only the in the Anglo sample ($r$ = -.17 for Total ABIC). Family Structure appeared to be completely independent of the ABIC for both the Pueblo and California samples ($r$ with Total ABIC = .03, .00, respectively). Socioeconomic Status and Family Size were unrelated to the ABIC for the California sample (r with Total ABIC = .02 and -.02, respectively); the Family Size variable was unrelated to ABIC for the Hispanic Pueblo sample as well ($r$ with Total ABIC = -.03).

Table 15

A Comparison of Pueblo and California Correlations Among
the Sociocultural Scale Raw Scores and the Health History Inventory Raw Scores

| SOCIOCULTURAL SCALES | Urban Acculturation | | Socioeconomic Status | | Family Structure | | Family Size | |
|---|---|---|---|---|---|---|---|---|
| | r | | r | | r | | r | |
| POPULATION | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA |
| Health History Inventories | | | | | | | | |
| Prenatal/Postnatal | .01 | -- | -.06 | -- | -.06 | -.05** | -.05 | .07*** |
| Trauma | .03 | -- | -.01 | -.04* | -.04 | -.07** | -.05 | -- |
| Illness | .04 | -- | -.02 | -.10** | -.02 | -- | -.11** | -- |
| Vision | .01 | -- | -.02 | -- | .04 | -.05** | -.05** | .05** |

* $p < .05$
** $p < .01$
*** $p < .001$

California N = 2085
Pueblo N = 594-598

Table 16

A Comparison of Pueblo and California Zero Order Correlations and Multiple Correlations Between ABIC Scaled Scores and the Sociocultural Scales for the Total Samples, Anglos, and Hispanics

| | Urban Acculturation r | | Socioeconomic Status r | | Family Structure r | | Family Size r | | Multiple R | | % Variance Explained | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POPULATION | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA |
| TOTAL SAMPLE | | | | | | | | | | | | |
| Family | .32*** | .03* | .18*** | -.04* | .06 | .01 | -.02 | .07* | .32*** | .11** | 10.4 | 1.2 |
| Community | .38*** | .19* | .21*** | .03* | .01 | -.02 | .09* | -.05 | .38*** | .20** | 14.5 | 3.9 |
| Peer | .26*** | .18* | .16*** | .06 | .06 | .02 | -.03 | -.06 | .26*** | .18** | 6.8 | 3.2 |
| Nonacademic School | .33*** | .16* | .21*** | .05 | .06 | .02 | .12** | -.04 | .33*** | .17** | 11.2 | 2.8 |
| Earner/Consumer | .27*** | .12* | .16*** | -.01* | -.01 | -.02 | -.10** | -.04 | .28*** | .14** | 7.8 | 1.9 |
| Self-Maintenance | .27*** | .13* | .14*** | .02* | .00 | -.01 | -.06 | -.01 | .27*** | .15** | 7.6 | 2.1 |
| Total ABIC | .34*** | .15* | .20*** | .02* | .03 | .00 | .08* | -.02 | .35*** | .16** | 12.0 | 2.6 |
| ANGLO | | | | | | | | | | | | |
| Family | .39*** | .08* | .18*** | .00 | .03 | .05 | .11* | .06* | .40*** | .12 | 16.2 | 1.5 |
| Community | .41*** | .16* | .18*** | .06 | .00 | .04 | -.21*** | -.06 | .45*** | .18** | 20.0 | 3.1 |
| Peer | .28*** | .14* | .21*** | .06 | .06 | .09* | -.10* | -.05 | .31*** | .17** | 9.4 | 2.8 |
| Nonacademic School | .35*** | .18* | .21*** | .04 | .07 | .04 | -.14** | -.01 | .38*** | .19** | 14.3 | 3.5 |
| Earner/Consumer | .33*** | .06* | .18*** | -.01 | .00 | .00 | -.19*** | -.01 | .37*** | .08 | 13.6 | .6 |
| Self-Maintenance | .31*** | .14* | .12* | .05 | -.02 | .03 | -.15** | .01 | .34*** | .14** | 11.4 | 2.0 |
| Total ABIC | .39*** | .14* | .20*** | .04 | .02 | .05 | -.17** | -.01 | .41*** | .15** | 17.1 | 2.3 |
| HISPANIC | | | | | | | | | | | | |
| Family | .33*** | .08* | .19*** | .07 | .11* | .02 | .02 | .07* | .35*** | .13** | 12.5 | 1.8 |
| Community | .37*** | .22* | .21*** | .04 | 00 | -.02 | .01 | -.06 | .40*** | .22** | 16.0 | 5.1 |
| Peer | .33*** | .20* | .13* | .09 | .04 | .02 | .00 | -.06 | .34*** | .21** | 11.5 | 4.3 |
| Nonacademic School | .38*** | .18* | .23*** | .06 | 05 | .00 | -.10 | -.04 | .39*** | .18** | 15.1 | 3.2 |
| Earner/Consumer | .29*** | .17* | .15** | .02 | -.01 | -.02 | -.06 | -.05 | .30*** | .17** | 8.9 | 2.9 |
| Self-Maintenance | .29*** | .17* | .14* | .05 | -.01 | -.04 | -.02 | .00 | .30*** | .19** | 8.9 | 3.5 |
| Total ABIC | .39*** | .19* | .20*** | .06 | .04 | -.01 | -.03 | -.03 | .39*** | .19** | 15.5 | 3.7 |

* $p < .05$
** $p < .01$
*** $p < .001$

Pueblo
Total N = 597
Anglo N = 305
Hisp. N = 260

California
Total N = 1720
Anglo N = 630
Hisp. N = 581

However, while the multiple correlation coefficients of the Sociocultural Scales with the ABIC are all statistically significant, the percentage of variance in adaptive behavior explained by the Sociocultural Scales is substantively quite small (about 15%). Therefore, it is concluded that pluralistic norms for the ABIC may not be warranted.

Correlations with the WISC-R. Table 17 reports the Pueblo and California zero order correlations between the Sociocultural Scale raw scores and the WISC-R (SFL) scaled scores for both samples and each ethnic group separately. Also presented are the multiple correlations which describe the extent to which variations on the SFL can be predicted by combining the four sociocultural measures.

For both the Pueblo and California samples, Urban Acculturation was found to be an important predictor for each ethnic group ($r$ with SFL Full Scale = .37 and .40, respectively for Pueblo and California Total Samples). Socioeconomic Status was the best predictor for the Anglo children ($r$ with SFL Full Scales of .35 and .39, for Pueblo and California Total Samples, respectively), but was less highly correlated for Hispanic students ($r$ = .20 and .16, respectively). Family Structure accounted for almost no variance in the scores of Hispanic children and was only a modest predictor for Anglos in the Pueblo sample. Family Size was negatively correlated for both groups indicating that the larger the family size, the lower the predicted SFL scores.

Table 17

A Comparison of Pueblo and California Zero Order and Multiple Correlations Between Sociocultural Scale Raw Scores and WISC-R (SFL) Scaled Scores for the Total Samples, Anglos, and Hispanics

| | Urban Acculturation r | | Socioeconomic Status r | | Family Structure r | | Family Size r | | Multiple R | | % Variance Explained | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POPULATION | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA | Pueblo | CA |
| TOTAL SAMPLE | | | | | | | | | | | | |
| Full Scale | .37*** | .40*** | .33*** | .40*** | ,08 | .14** | -.22*** | -.23*** | .43*** | .49*** | 18.5 | 24.0 |
| Verbal | .40*** | .46*** | .35*** | .39*** | .11* | .11** | -.20*** | -.26*** | .45*** | .52*** | 20.3 | 27.0 |
| Performance | .27*** | .25*** | .25*** | .33*** | .03 | .16*** | -.19*** | -.15*** | .33*** | .37*** | 10.9 | 13.7 |
| ANGLO | | | | | | | | | | | | |
| Full Scale | .34*** | .29*** | .35*** | .39*** | .10* | .15*** | -.21*** | -.11** | .45*** | .42*** | 20.2 | 17.6 |
| Verbal | .34*** | .32*** | .33*** | .40*** | .10* | .16*** | -.20*** | -.11** | .43*** | .45*** | 18.4 | 20.3 |
| Performance | .28*** | .17*** | .31*** | .28*** | .08 | .10** | -.19*** | -.08* | .39*** | .30*** | 14.9 | 8.8 |
| HISPANIC | | | | | | | | | | | | |
| Full Scale | .36*** | .37*** | .20*** | .16*** | .01 | -.03 | -.16** | -.19*** | .38*** | .39*** | 14.2 | 15.2 |
| Verbal | .41*** | .45*** | .29*** | .14** | .08 | -.05 | -.14* | -.23*** | .44*** | .47*** | 19.0 | 22.8 |
| Performance | 25*** | .16*** | .10 | .13** | -.06 | .01 | -.13* | -.09* | .27** | .19** | 7.1 | 3.6 |

* p < .05
** p < .01
*** p < .001

Pueblo
Total N = 542-543
Anglo N = 287-288
Hisp. N = 227

California
Total N = unspecified
Anglo N = 603
Hisp. N = 520

Columns 9 and 10 in Table 17 present multiple correlation coefficients for both samples when all four Sociocultural Scales are used simultaneously as predictors of the SFL. The column headed "% variance" reports the percentage of the variance in SFL scores which can be explained by the four Sociocultural Scales. For the California sample, the percentage of the variance in SFL Full Scale scores which is explained by sociocultural factors is approximately the same for both ethnic groups, ranging from 14.9% for Hispanics to 17.8% for Anglo children.

For the Pueblo sample, the percentage of the variance in SFL Full Scale scores which is explained by sociocultural factors is similar to that found in California. The percentage of explained variance ranged from 20.2% for Anglos to 14.2% for Hispanics on SFL Full Scale. Since the Sociocultural Scales accounted for a significant portion of the variance in SFL scores, the need for multiple normative framework within each ethnic group on this measure, as Mercer advocated, is supported.

In summary, since no data have been presented in the field thus far concerning the validity of the SOMPA, this section of the results has attempted to provide data on the internal validity of the instruments and measures within the system. Intercorrelations of the three new instruments in the SOMPA, the Physical Dexterity Tasks, the Health History Inventories, and the ABIC, were presented. Correlations of measures within each of the three models in the SOMPA were reported. Correlations between measures of the three models were delineated.

In summary, the ABIC has relatively high correlations among its subtests. This suggests that the adaptive behavior construct could be assessed by a single measure which is not broken down by social group (i.e., community, family) as is the ABIC. However, if this were done, the reliability of the instrument would probably be reduced. More importantly, any potential the ABIC does have for assisting educators in developing educational interventions would be minimized. The fact that the ABIC intratest correlations are much higher than the correlations of the ABIC with SFL (IQ) and with Medical Model measures suggest the validity of the ABIC as an independent source of information.

Modest correlations were found among the Physical Dexterity Tasks and low correlations were found among the Health History Inventory subscales. A lack of sizable relationships among the various types of Medical Model measures as well as between these measures and the Social System Model measures were also noted. These findings suggest that the Medical Model is independent of the Social System Model, but that it is probably useful only for specific screening purposes and should not be used to identify broad categories of need or placement.

The Sociocultural Scales showed similar moderate predictions of School Functioning Level in Pueblo as they did in the California standardization sample. This suggests that these scales may be utilized in the establishment of pluralistic norms to estimate learning potential. Most of their predictive value can be attributed to the Urban Acculturation and Socioeconomic Status Scales, thus

suggesting that a briefer version of these scales would be useful if the number of questions included in each were not already so small. The Sociocultural Scales showed somewhat higher correlations with the ABIC in Pueblo than in California, thus raising the question of whether local norms might be appropriate for adaptive behavior.

Overall, then, the SOMPA appears clearly multidimensional, adaptive behavior being measurable and separable from School Functioning Level. Medical Model measures are highly independent of one another and of other SOMPA measures. The Sociocultural Scales also produce an independent set of data which are usable in adjusting IQ scores for sociocultural differences. The referred Pueblo sample has lower means and often higher inter-test correlations than did the California standardization sample. Finally, the data suggest that for a referred population, briefer versions of the ABIC and Sociocultural Scales might be warranted though with questionable costs and payoffs.

The Issue of Ethnic Differences in Measures

Mercer stated in the SOMPA: Conceptual and Technical Manual (1979b) that Medical Model measures should be free of ethnic differences because medical pathology is not culture bound but rather is transcultural. On the other hand, she said, Social System Model measures are by definition culture bound since they tap conformity to social role expectations. Pluralistic Model measures, again, should be found to minimize ethnic differences since they are adjusted by Sociocultural Scales which are designed to reduce differences in scores by ethnic group and by sociocultural space within each ethnic

group. In this section of the results, the issue of ethnic differences in SOMPA measures is investigated.

Question 1: Are ethnic differences present on SOMPA Medical Model, Social System Model, and Pluralistic Model measures from the Pueblo data?

Medical Model Measures

Table 18 presents data on Anglo and Hispanic students from Pueblo on the SOMPA Medical Model measures. As noted earlier, no significant ethnic differences on these measures was expected. This expectation was confirmed with the exception of three measures: the Placement scale of the Physical Dexterity Tasks, $F$ (1, 413) = 5.87, $p < .016$, the Ambulation scale of the Physical Dexterity Tasks, $F$ (1, 412) = 12.27, $p < .001$, and the Illness Inventory of the Health History Inventories, $F$ (1, 563) = 4.33, $p < .038$. Ethnic differences favored the Hispanics on all three measures. No ethnic differences were found on any of the other Medical Model measures.

Social System Model Measures

Table 19 reports data on ethnic differences between Anglos and Hispanics on the SOMPA Social System Model measures. No significant ethnic differences between these two groups were found on the ABIC and its subscales. This suggests that there is no need for pluralistic norms on the ABIC.

All ethnic comparisons on SFL scores were significant beyond the .001 level. Anglos scored approximately 6 points higher than did

Table 18

Ethnic Differences on SOMPA Medical Model Measures

| ETHNICITY | ANGLO | | | HISPANIC | | | | |
|---|---|---|---|---|---|---|---|---|
| MEDICAL MODEL MEASURES | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | F | p |
| Physical Dexterity Tasks | | | | | | | | |
| Placement | 37.98 | 20.54 | 227 | 42.56 | 17.45 | 188 | 5.87 | .016 |
| Ambulation | 38.54 | 20.90 | 226 | 45.47 | 18.93 | 188 | 12.27 | .001 |
| Involuntary Movement | 42.80 | 16.00 | 227 | 42.16 | 17.03 | 188 | .15 | .695 |
| Fine Motor Sequencing | 49.35 | 17.25 | 227 | 50.30 | 16.64 | 188 | .32 | .573 |
| Equilibrium | 58.22 | 17.23 | 227 | 57.37 | 18.67 | 188 | .23 | .631 |
| Finger-Tongue Dexterity | 35.89 | 18.70 | 227 | 38.03 | 19.67 | 188 | 1.28 | .258 |
| PD Average | 42.58 | 12.97 | 227 | 44.42 | 12.77 | 187 | 2.09 | .148 |
| Bender-Gestalt Overall Score | 29.67 | 19.54 | 282 | 31.53 | 18.65 | 217 | 1.15 | .284 |
| Better Monocular Acuity | 27.93 | 14.48 | 213 | 28.06 | 16.27 | 152 | .01 | .938 |
| Health History Inventories | | | | | | | | |
| Pre/Post-natal | 4.49 | 5.09 | 303 | 4.34 | 5.80 | 259 | .12 | .735 |
| Trauma | 5.23 | 5.55 | 303 | 4.65 | 7.87 | 261 | 1.04 | .308 |
| Illness | 3.31 | 3.64 | 303 | 2.70 | 3.21 | 262 | 4.33 | .038 |
| Vision | .93 | 1.70 | 303 | .92 | 1.64 | 262 | .01 | .942 |

Table 19

Ethnic Differences on SOMPA Social System Model Measures

| ETHNICITY | ANGLO | | | HISPANIC | | | | |
|---|---|---|---|---|---|---|---|---|
| SOCIAL SYSTEM MODEL MEASURES | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | F | p |
| Adaptive Behavior Inventory for Children (ABIC) | | | | | | | | |
| Family | 45.24 | 14.77 | 305 | 45.79 | 14.56 | 260 | .20 | .655 |
| Community | 41.82 | 14.19 | 305 | 39.68 | 14.56 | 260 | 3.12 | .077 |
| Peer | 48.62 | 15.72 | 305 | 48.59 | 16.29 | 260 | .01 | .985 |
| Nonacademic School | 42.70 | 14.39 | 305 | 41.62 | 13.24 | 260 | .84 | .358 |
| Earner/Consumer | 44.80 | 15.26 | 305 | 45.03 | 13.93 | 260 | .04 | .847 |
| Self-Maintenance | 46.50 | 15.99 | 305 | 46.45 | 14.22 | 260 | .01 | .965 |
| ABIC Average | 44.93 | 13.42 | 305 | 44.55 | 12.67 | 260 | .12 | .730 |
| School Functioning Level (WISC-R) | | | | | | | | |
| Verbal | 86.16 | 15.68 | 292 | 79.15 | 13.96 | 227 | 28.01 | .001 |
| Performance | 88.28 | 16.09 | 292 | 83.88 | 14.22 | 227 | 10.58 | .001 |
| Full Scale | 85.95 | 15.46 | 292 | 79.72 | 13.49 | 227 | 23.16 | .001 |

Hispanics on the SFL Full Scale, (85.95 versus 79.72) approximately 4 points higher on the SFL Verbal (86.16 versus 79.15) and approximately 4 points higher on the SFL Performance (88.28 versus 83.88). These significant differences on SFL scores support the need for pluralistic norms on the WISC-R.

Pluralistic Model Measures

Table 20 presents data on ethnic differences between Anglos and Hispanics on SOMPA Pluralistic Model measures. As noted, all differences between the ELP Verbal, Performance, and Full Scale scores for Anglos and Hispanics are significant beyond the .001 level. Anglos scored higher than Hispanics on all three measures, obtaining a mean score of 90.52 compared to 85.65, respectively, on the ELP Verbal, 89.69 versus 84.82 on ELP Performance, and 88.66 versus 83.01 on the ELP Full Scale. These findings are about as large as they are on SFL, a surprising finding since each ELP score is designed to be adjusted for the sociocultural variance within and between ethnic groups.

In summary, Mercer's hypotheses regarding ethnic differences on measures in each of the three models are only partially supported by the Pueblo data. On Medical Model measures where no ethnic differences were hypothesized, 10 of 13 ethnic comparisons were nonsignificant. On Social System Model measures where ethnic differences were expected, they were found on measures of school functioning. They were not, however, found on measures of adaptive behavior thus suggesting that these subscales may be composed of activities common to children age 5-11 years across ethnic groups and that separate ethnic norms are

Table 20

Ethnic Differences on SOMPA Pluralistic Model Measures

| ETHNICITY | ANGLO | | | HISPANIC | | | | |
|---|---|---|---|---|---|---|---|---|
| PLURALISTIC MODEL MEASURES | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | F | p |
| Estimated Learning Potential (ELP) | | | | | | | | |
| WISC-R with Pluralistic Norms: Verbal | 90.52 | 15.75 | 287 | 85.65 | 14.40 | 227 | 13.06 | .001 |
| WISC-R with Pluralistic Norms: Performance | 89.69 | 16.01 | 287 | 84.82 | 15.08 | 227 | 12.33 | .001 |
| WISC-R with Pluralistic Norms: Full Scale | 88.66 | 15.45 | 287 | 83.01 | 14.56 | 227 | 17.82 | .001 |

unnecessary. Ethnic differences on all three Pluralistic Model measures were found, thus suggesting that the regression equation utilized in the standardization sample may not be appropriate to a referred sample.

The Issue of Ethnic Disproportionality in Special Education

In this section of the results, data are presented to provide a picture of Pueblo District #60's major services to special education students from the 1970-1971 school year through the 1976-1977 school year. Data on secondary students are not presented because the SOMPA was standardized for children 5-11 years of age and the children who were first assessed with the SOMPA have not yet begun to enter high school. It should be noted, however, that a separate analysis of all students enrolled in all District #60 special education programs grades 1 through 12 indicated that ethnic disproportionality in classes for the educable mentally retarded still exists. Therefore, the results presented in Table 21 deal only with elementary school children, that portion of the school population which would have been assessed with the SOMPA.

Question 1: Are minorities over-represented in Pueblo's special education programs for elementary school children?

Table 21 reports the frequencies and percentages of Anglo and Hispanic elementary school children in special education programs compared with the proportion in the elementary school population from 1970 through 1977. When the expected cell size dropped below five, Yates correction for a small sample size was applied.

Table 21

Frequencies and Percentages of Anglo and Hispanic Elementary School Children Placed in Special Education Programs Compared With Percentages by Ethnic Group in the Total Elementary School Population, 1970-1971 through 1976-1977[a]

| YEAR | | 1970-71 | | | | 1971-72 | | | | 1972-73 | | | | 1973-74 | | | | 1974-75 | | | | 1975-76 | | | | 1976-77 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PROGRAM | | Special Education | | Total Elementary | | Special Education | | Total Elementary | | Special Education | | Total Elementary | | Special Education | | Total Elementary | | Special Education | | Total Elementary | | Special Education | | Total Elementary | | Special Education | | Total Elementary | |
| | | N | Σ | Σ | $x^2$ | N | Σ | Σ | $x^2$ | N | Σ | Σ | $x^2$ | N | Σ | Σ | $x^2$ | N | Σ | Σ | $x^2$ | N | Σ | Σ | $x^2$ | N | Σ | Σ | $x^2$ |
| Educable Mentally Retarded | A | 39 | 33 | 60 | | 41 | 35 | 58 | | 40 | 38 | 57 | | 67 | 34 | 57 | | 22 | 50 | 56 | | 30 | 42 | 56 | | 39 | 45 | 55 | |
| | H | 80 | 67 | 40 | 16.16*** | 80 | 65 | 42 | 26.81*** | 102 | 72 | 43 | 48.16*** | 131 | 66 | 43 | 43.34*** | 22 | 50 | 44 | .64 n.s. | 61 | 58 | 44 | 5.65* | 47 | 55 | 45 | 1.24 n.s. |
| Learning Disabled | A | 51 | 55 | 60 | | 68 | 62 | 58 | | 48 | 68 | 57 | | 99 | 65 | 57 | | 152 | 64 | 56 | | 142 | 55 | 56 | | 230 | 57 | 55 | |
| | H | 41 | 45 | 40 | .30 n.s. | 29 | 38 | 42 | .19 n.s. | 23 | 32 | 43 | 1.76 n.s. | 56 | 35 | 43 | 1.71 n.s. | 87 | 36 | 44 | 5.60* | 116 | 45 | 44 | .10 n.s. | 172 | 43 | 45 | .80 n.s. |
| Behaviorally Disorded | A | no data | | | | no data | | | | 9 | 66 | 57 | | 10 | 67 | 57 | | 6 | 75 | 56 | | 7 | 64 | 56 | | 15 | 58 | 55 | |
| | H | no data | | | - - - - | no data | | | - - - - | 5 | 32 | 43 | .30 n.s. | 5 | 33 | 43 | .57 n.s. | 2 | 25 | 44 | .53 n.s.[b] | 6 | 36 | 44 | .06 n.s.[b] | 11 | 42 | 45 | .07 n.s. |
| Physically Handicapped | A | 18 | 67 | 60 | | 17 | 63 | 58 | | 3 | 100 | 57 | | 10 | 50 | 57 | | 17 | 69 | 56 | | no data | | | | 10 | 53 | 55 | |
| | H | 9 | 33 | 40 | .7 n.s. | 10 | 37 | 42 | .27 n.s. | 0 | 0 | 43 | 2.26 n.s. | 10 | 50 | 43 | .40 n.s. | 18 | 51 | 44 | .79 n.s | no data | | | - - - | 9 | 62 | 45 | .06 n.s. |
| Speech Handicapped | A | no data | | | | no data | | | | 171 | 58 | 57 | | 266 | 59 | 57 | | 329 | 59 | 56 | | 148 | 47 | 56 | | 196 | 51 | 55 | |
| | H | no data | | | - - - - | no data | | | - - - - | 126 | 67 | 43 | .06 n.s. | 182 | 61 | 43 | .88 n.s. | 227 | 61 | 44 | 2.27 n.s. | 169 | 53 | 44 | 11.16*** | 191 | 69 | 45 | 2.96 n.s. |

* $p < .02$
** $p < .01$
*** $p < .001$

[a] Anglos and Hispanics were treated as the total population since other minority groups in the schools comprised less than 3% of the total school population.

[b] Yates correction for small sample size was applied.





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Enrollment data on children placed in classes for the Educable Mentally Retarded (EMR) indicated that Hispanic children were significantly overrepresented in EMR classes from 1970-1974 and in the 1975-1976 school year. Hispanics were underrepresented in classes for Learning Disabled (LD) students during the 1974-1975 school year ($\underline{x}^2$ (1) = 5.6, $p < .02$). No overrepresentation occurred for Hispanics in classes for Behaviorally Disordered (BD) students or classes for the Physically Handicapped (PH) in any year. Hispanics were significantly overrepresented in Speech Handicapped (SH) classes during the 1975-1976 school year only, $\underline{x}^2$ (1) = 11.16, $p < .001$.

It is of interest to note that the year after SOMPA was first introduced in the district was the only year in which no ethnic disproportionality in elementary special education programs was found. Although minority students were not overrepresented in EMR classes the year before SOMPA's introduction, minority students were underrepresented that year in LD classes. The year of SOMPA's introduction, 1975-1976, only a small number of students were assessed using the system since all professional assessment personnel were being trained in its use. However, in the 1976-1977 school year, the first full year in which the SOMPA was fully implemented, it appeared to assist in correcting for the ethnic disproportionality in special education programs, most notably in classes for the EMR. Some caution needs to be introduced in interpreting this change since the shift from the previous year was only about 3% (58% to 55% Hispanic).

The Issue of Placement Before and After SOMPA Administration

To date, no researcher has generated data regarding the placement of students who were assessed with the SOMPA. This section of the results addresses the need for information on the topic.

Question 1: What was the ethnic distribution of students assigned to educational programs after SOMPA evaluation?

Table 22 presents the frequencies and percentages of Anglo and Hispanic students assigned to regular and special education placements before and after a SOMPA evaluation. For Anglos, the number of students in regular education dropped almost 30% while the number of Hispanic students dropped by about 10%. The number of Anglo and Hispanic students receiving EMR and BD services less than 15 hours weekly remained constant, while the numbers of students receiving LD services less than 15 hours weekly increased 24% for Anglos and 21% for Hispanics. Two more Anglos began receiving speech/language therapy and 6 Hispanics lost this service, although 8 more Anglos and 5 more Hispanics began receiving speech/ language therapy and either EMR or LD or BD services less than 15 hours weekly. The numbers of students receiving physical therapy or who were found to have physical handicaps decreased. While the number of Anglo students in full-time EMR classes increased, the number of Hispanics in such classes decreased. No students who had been administered the SOMPA were found in other full-time placements such as those for the Physically Handicapped (PH).

Table 22

Frequencies and Percentages of Anglo and Hispanic Students in Regular and Special Education Placements Before and After SOMPA Administration

| ETHNICITY | ANGLO | | | | HISPANIC | | | |
|---|---|---|---|---|---|---|---|---|
| | Before SOMPA | | After SOMPA | | Before SOMPA | | After SOMPA | |
| PLACEMENT | N | % | N | % | N | % | N | % |
| Regular Education: Full Time | 99 | 56.6 | 47 | 26.8 | 58 | 39.1 | 43 | 29.0 |
| Regular Education with Educable Mentally Retarded (EMR) Placement | 5 | 2.9 | 4 | 2.3 | 7 | 4.7 | 2 | 1.4 |
| Regular Education with Learning Disabled (LD) Placement | 34 | 19.4 | 76 | 43.4 | 30 | 20.3 | 61 | 41.2 |
| Regular Education with Behavior Disordered (BD) Placement | 3 | 1.7 | 3 | 1.7 | 0 | .0 | 1 | .7 |
| Regular Education with Language Therapy | 6 | 3.4 | 8 | 4.6 | 10 | 6.8 | 4 | 2.7 |
| Regular Education with Language Therapy and EMR or LD or BD Placement | 11 | 6.3 | 19 | 10.9 | 4 | 2.7 | 9 | 6.1 |
| Regular Education with Other Placement | 9 | 5.1 | 3 | 1.7 | 17 | 11.5 | 9 | 6.1 |
| Educable Mentally Retarded: Full Time | 8 | 4.6 | 15 | 8.6 | 22 | 14.9 | 19 | 12.8 |
| Other Placements: Full Time | 0 | .0 | 0 | .0 | 0 | .0 | 0 | .0 |

Question 2: For each ethnic group, what placement shifts occurred in the numbers of students assigned to various placements before and after SOMPA evaluation?

For these same students, Table 23 reports the students' placements before SOMPA administration by after SOMPA administration. One would expect the majority of cases in this table to fall on the diagonal except for full-time regular education, for EMR, and for LD where most shifts were expected. This expectation was confirmed in most cases. However, 11 students who had been in Regular Education with Other (PH) before SOMPA were switched to Regular Education with ID less than 15 hours weekly after SOMPA evaluation. While no Anglo or Hispanic students who had been in full-time regular education were placed in EMR classes part-time, 5 Anglos were placed in EMR classes full-time and 64 students were placed in LD classes part-time. Only one student who had been receiving part-time EMR services and one child who had been receiving full-time EMR services were placed in full-time regular education after SOMPA assessment.

Question 3: Were there differences in SOMPA scores by placement after SOMPA assessment?

Table 24 presents data on SOMPA Medical Model scores by placement after SOMPA. There were significant differences among placement options for several Physical Dexterity measures and for the Bender Gestalt. Means on the PD Average for each placement ranged between 48.56 (Regular Education: Full-Time) to 34.53 (EMR Full-Time). However, the mean Bender Gestalt scaled score for the EMR part-time

Table 23

Frequencies of Educational Placements for Anglo and Hispanic Students
Before and After SOMPA Administration

| PLACEMENT AFTER SOMPA / PLACEMENT BEFORE SOMPA | Regular Education: Full Time | | Regular Education with EMR | | Regular Education with LD | | Regular Education with BD | | Regular Education with Language Therapy | | Regular Education with Language Therapy and EMR/LD/BD | | Regular Education with Other | | EMR: Full Time | | Other: Full Time | | TOTAL BY PLACEMENT BEFORE SOMPA | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ETHNICITY | A | H | A | H | A | H | A | H | A | H | A | H | A | H | A | H | A | H | A | H |
| Regular Education: Full Time | 37 | 26 | 0 | 0 | 39 | 25 | 3 | 0 | 3 | 2 | 10 | 0 | 2 | 5 | 5 | 0 | 0 | 0 | 99 | 58 |
| Regular Education with Educable Mentally Retarded (EMR) | 0 | 1 | 4 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 5 | 7 |
| Regular Education with Learning Disabled (LD) | 4 | 5 | 0 | 0 | 29 | 22 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 34 | 30 |
| Regular Education with Behaviorally Disordered (BD) | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| Regular Education with Language Therapy | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 3 | 0 | 2 | 1 | 0 | 0 | 0 | 6 | 10 |
| Regular Education with Language Therapy and EMR or LD or BD placement | 1 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 0 | 5 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 11 | 4 |
| Regular Education with Other Placement | 4 | 6 | 0 | 0 | 3 | 8 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 9 | 17 |
| Educable Mentally Retarded: Full Time | 0 | 1 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 7 | 16 | 0 | 0 | 8 | 22 |
| Other Placements: Full Time | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL BY ETHNICITY AND PLACEMENT AFTER SOMPA | 47 | 43 | 4 | 2 | 76 | 61 | 3 | 1 | 8 | 4 | 19 | 9 | 3 | 9 | 15 | 19 | 0 | 0 | 175 | 148 |

Table 24

ANOVA on SOMPA Medical Model Measures by Students Assigned to Placement Options
After SOMPA Assessment

| | REGULAR EDUCATION | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PLACEMENT OPTIONS: | | | | | | | | | | | | | | | | | | | | | | | | |
| MEDICAL MODEL MEASURES | Full Time | | | with EMR | | | with LD | | | with BD | | | with Language Therapy | | | with Language and EMR/LD/BD | | | with other | | | EMR Full Time | | | | |
| Physical Dexterity Tasks | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | F | p |
| Placement | [illegible] | 16.11 | 94 | 35.50 | 18.20 | 6 | 39.98 | 20.07 | 145 | 51.25 | 6.40 | 4 | 41.67 | 16.97 | 12 | 33.61 | 20.57 | 33 | 44.00 | 20.90 | 13 | 33.05 | 22.66 | 38 | 2.31 | .026 |
| Ambulation | [illegible] | 15.14 | 94 | 36.00 | 21.82 | 6 | 42.09 | 20.54 | 145 | 50.75 | 13.20 | 4 | 46.25 | 19.24 | 12 | 35.48 | 19.71 | 33 | 43.33 | 23.81 | 12 | 30.45 | 22.32 | 38 | 4.35 | .001 |
| Involuntary Movement | [illegible] | 11.33 | 94 | 37.00 | 16.07 | 6 | 42.79 | 17.49 | 145 | 43.25 | 6.95 | 4 | 44.58 | 15.34 | 12 | 44.30 | 16.03 | 33 | 35.08 | 22.75 | 13 | 36.95 | 19.58 | 38 | 2.32 | .026 |
| Fine Motor Sequencing | [illegible] | 14.17 | 94 | 35.50 | 21.97 | 6 | 52.53 | 14.85 | 145 | 41.00 | 17.45 | 4 | 40.92 | 22.17 | 12 | 47.58 | 17.62 | 33 | 47.92 | 16.76 | 13 | 37.82 | 22.63 | 38 | 6.08 | .001 |
| Equilibrium | [illegible] | 14.46 | 95 | 51.67 | 14.16 | 6 | 59.56 | 16.94 | 145 | 52.25 | 20.42 | 4 | 56.00 | 19.14 | 12 | 54.61 | 18.74 | 33 | 48.54 | 22.38 | 13 | 48.29 | 22.20 | 38 | 3.93 | .004 |
| Finger-Tongue Dexterity | [illegible] | 17.29 | 95 | 26.67 | 24.74 | 6 | 36.43 | 18.29 | 145 | 30.50 | 26.26 | 4 | 48.00 | 17.36 | 12 | 34.58 | 19.91 | 33 | 44.62 | 17.87 | 13 | 25.34 | 22.83 | 38 | 3.79 | .006 |
| PD Average | [illegible] | 9.75 | 96 | 35.33 | 11.67 | 6 | 43.92 | 13.64 | 145 | 44.00 | 8.87 | 4 | 43.33 | 13.53 | 12 | 40.39 | 13.06 | 33 | 43.46 | 16.93 | 13 | 34.53 | 14.38 | 38 | 5.42 | .001 |
| Bender Gestalt Overall Score | 16.71 | 13.13 | 109 | 12.28 | 9.96 | 7 | 30.50 | 18.29 | 190 | 34.00 | 21.27 | 5 | 38.08 | 19.86 | 12 | 26.68 | 18.22 | 45 | 24.28 | 18.88 | 21 | 16.31 | 15.66 | 38 | 7.02 | .001 |
| Better Binocular Acuity | [illegible] | 19.25 | 90 | 28.00 | 4.47 | 5 | 27.95 | 16.61 | 139 | 30.00 | 13.54 | 4 | 26.82 | 4.62 | 11 | 26.29 | 6.32 | 31 | 22.50 | 7.30 | 16 | 11.96 | 15.60 | 24 | .55 | .738 |
| Health History Inventories | | | | | | | | | | | | | | | | | | | | | | | | |
| Pre/Post-natal | [illegible] | 3.64 | 112 | 4.91 | 5.19 | 11 | 3.94 | 5.87 | 219 | 1.67 | 1.37 | 6 | 4.58 | 6.96 | 12 | 5.92 | 7.16 | 52 | 3.25 | 3.15 | 24 | 6.46 | 6.12 | 41 | 1.65 | .089 |
| Trauma | [illegible] | 5.32 | 112 | 4.27 | 3.95 | 11 | 4.72 | 6.36 | 220 | 5.33 | 3.88 | 6 | 2.17 | 4.30 | 12 | 4.65 | 5.61 | 52 | 5.42 | 3.61 | 24 | 7.44 | 13.69 | 41 | 1.32 | .219 |
| Illness | [illegible] | 3.75 | 112 | 5.64 | 3.78 | 11 | 2.89 | 3.56 | 220 | 3.50 | 4.28 | 6 | 1.58 | 1.93 | 12 | 2.96 | 3.78 | 52 | 2.75 | 2.21 | 24 | 3.88 | 4.16 | 42 | 1.64 | .091 |
| Vision | [illegible] | 1.76 | 112 | 2.36 | 3.29 | 11 | .87 | 1.71 | 220 | 1.50 | 1.76 | 6 | .08 | .29 | 12 | .87 | 1.67 | 52 | .79 | 1.84 | 24 | .98 | 1.51 | 42 | 1.46 | .229 |



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service (12.28) was lower than the Bender Gestalt scaled score for any other placement option including full-time EMR (16.21). No significant differences by placement were found for Better Monocular Acuity or for the Health History Inventories.

Table 25 reports data on SOMPA Social System Model measures by placement after SOMPA evaluation. Significant differences, all beyond the .001 level, are found for every measure. While the ABIC Average scaled score for students placed in full-time regular education was 47.89, it decreased to 25.55 for those assigned to EMR part-time services. Students receiving full-time EMR services obtained a much higher mean score, 37.29.

On the WISC-R, students assigned to the full-time regular education program received a mean score of 88.16, 90.59, and 88.31 for SFL Verbal, Performance, and Full Scale, respectively. Students assigned to part-time EMR services performed similarly to those assigned to full-time EMR placements: 62.50 versus 63.05 on Verbal, 66.63 versus 63.43 on Performance, and 62.25 versus 60.14 on Full Scale.

Table 26 presents data on the SOMPA Pluralistic Model measures by placement after SOMPA administration. Again, all scores by placements are significant beyond the .001 level. Most notably, the scores from those receiving part and full-time EMR services were significantly lower than those of students placed in other service options. However, for these two placements, differences between means on measures were not significant. These data point to the fact that the placement of

Table 25

ANOVA on SOMPA Social System Model Measures by Students
Assigned to Placement Options After SOMPA Assessment

| PLACEMENT OPTIONS | REGULAR EDUCATION | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SOCIAL SYSTEM MODEL MEASURES | Full Time | | | with EMR | | | with LD | | | with BD | | | with Language Therapy | | | with Language and EMR/LD/BD | | | with other | | | EMR Full Time | | | | |
| Adaptive Behavior Inventory for Children ABIC | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | F | P |
| Family | 49.00 | 13.67 | 113 | 26.18 | 20.08 | 11 | 46.55 | 12.67 | 220 | 49.67 | 22.70 | 6 | 45.17 | 12.45 | 12 | 44.54 | 12.37 | 52 | 45.21 | 13.65 | 24 | 37.73 | 17.89 | 41 | 4.79 | .001 |
| Community | 43.74 | 13.74 | 113 | 20.09 | 16.78 | 11 | 41.66 | 12.72 | 220 | 48.00 | 23.66 | 6 | 42.50 | 14.09 | 12 | 39.40 | 11.01 | 52 | 42.83 | 10.91 | 24 | 33.80 | 18.15 | 41 | 4.69 | .001 |
| Peer | 51.55 | 14.67 | 113 | 36.73 | 25.13 | 11 | 50.21 | 13.98 | 220 | 42.17 | 26.53 | 6 | 49.92 | 10.82 | 12 | 45.21 | 12.80 | 52 | 50.00 | 13.58 | 24 | 40.15 | 16.76 | 41 | 4.17 | .001 |
| Nonacademic School | 44.79 | 13.25 | 113 | 22.09 | 17.95 | 11 | 43.42 | 12.66 | 220 | 43.17 | 18.83 | 6 | 41.42 | 10.88 | 12 | 40.88 | 11.33 | 52 | 46.63 | 11.09 | 24 | 34.85 | 16.44 | 41 | 5.19 | .001 |
| Earner Consumer | 48.55 | 14.60 | 113 | 25.82 | 17.92 | 11 | 46.35 | 12.48 | 220 | 51.50 | 18.79 | 6 | 43.00 | 13.03 | 12 | 41.60 | 12.57 | 52 | 44.04 | 13.41 | 24 | 39.22 | 17.51 | 41 | 4.94 | .001 |
| Self-Maintenance | 49.41 | 14.80 | 113 | 28.91 | 19.81 | 11 | 48.00 | 14.02 | 220 | 50.00 | 13.93 | 6 | 46.42 | 10.08 | 12 | 44.38 | 11.81 | 52 | 46.46 | 12.83 | 24 | 38.17 | 15.30 | 41 | 4.40 | .001 |
| ABIC Average | 47.89 | 12.34 | 113 | 25.55 | 18.32 | 11 | 46.02 | 11.04 | 220 | 47.50 | 19.83 | 6 | 45.08 | 9.48 | 12 | 42.75 | 10.61 | 52 | 45.96 | 10.05 | 24 | 37.29 | 15.53 | 41 | 6.20 | .001 |
| School Functioning Level (WISC-R) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Verbal | 88.16 | 15.06 | 110 | 62.50 | 5.26 | 8 | 87.07 | 12.87 | 201 | 92.60 | 7.89 | 5 | 88.33 | 17.34 | 12 | 77.17 | 13.07 | 46 | 86.77 | 14.30 | 22 | 63.05 | 10.74 | 42 | 23.02 | .001 |
| Performance | 90.59 | 13.98 | 110 | 66.63 | 8.00 | 8 | 90.97 | 11.64 | 201 | 92.60 | 11.70 | 5 | 94.92 | 16.51 | 12 | 82.35 | 14.78 | 46 | 91.00 | 13.29 | 22 | 63.43 | 10.83 | 42 | 29.62 | .001 |
| Full Scale | 88.31 | 14.27 | 110 | 62.25 | 5.85 | 8 | 87.62 | 10.84 | 201 | 91.60 | 9.24 | 5 | 90.75 | 16.42 | 12 | 78.02 | 13.34 | 46 | 87.82 | 13.04 | 22 | 60.14 | 9.88 | 42 | 33.93 | .001 |



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Table 26

ANOVA on SOMPA Pluralistic Model Measures by Students Assigned to Placement Options After SOMPA Assessment

| PLACEMENT OPTIONS | REGULAR EDUCATION | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PLURALISTIC MODEL MEASURES | Full Time | | | with EMR | | | with LD | | | with BD | | | with Language Therapy | | | with Language and EMR/LD/BD | | | with other | | | EMR Full Time | | | | |
| | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | $\bar{X}$ | SD | N | F | P |
| Estimated Learning Potential (ELP) | | | | | | | | | | | | | | | | | | | | | | | | | |
| WISC-R with Pluralistic Norms: Verbal | 92.75 | 15.14 | 109 | 67.75 | 4.80 | 8 | 92.32 | 11.33 | 201 | 95.80 | 7.01 | 5 | 93.50 | 16.61 | 12 | 82.46 | 13.51 | 46 | 92.38 | 15.96 | 21 | 69.63 | 11.17 | 40 | 18.99 | .0001 |
| WISC-R with Pluralistic Norms: Performance | 91.59 | 14.37 | 109 | 65.38 | 8.75 | 8 | 92.10 | 12.46 | 201 | 93.40 | 11.08 | 5 | 97.08 | 18.29 | 12 | 83.54 | 15.24 | 46 | 90.10 | 12.03 | 21 | 65.03 | 10.74 | 40 | 26.35 | .0001 |
| WISC-R with Pluralistic Norms: Full Scale | 90.98 | 14.01 | 109 | 63.13 | 6.31 | 8 | 90.58 | 11.85 | 201 | 93.20 | 8.98 | 5 | 91.67 | 18.10 | 12 | 81.11 | 13.78 | 46 | 90.14 | 14.31 | 21 | 63.50 | 10.52 | 40 | 29.08 | .0001 |

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students scoring poorly on Pluralistic Model measures may be mediated by the consideration of other SOMPA scores when deciding placement outcomes for students.

The Issue of Profile Indicating Placement

In creating a profile variable to represent a passing score on Medical Model, Social System Model, and Pluralistic Model criteria, it was hoped that a pattern in placement would emerge to assist in determining if specific profiles indicated specific placements. As noted in Chapter IV, the student had to fail the PD Average to receive an "F" for the first of the three letter profile variable, to fail the ABIC Average and the SFL Full Scale to receive a "F" for the second letter of the profile, and to fail the ELP Full Scale to receive an "F" for the third letter of the profile variable. Passing scores on these measures resulted in a passing indication, "P," being awarded. Thus, eight three-letter profiles were generated.

The question of profile predicting placement will now be explored.

Question 1: What are the ethnic distributions on the eight SOMPA profiles?

Table 27 reports data for the ethnic distribution on each SOMPA profile. As presented, 73.7% of the Anglos and 68.9% of the Hispanics had a PPP profile. The next most populous category was the FPP profile with contained 15.4% and 13.5% Anglos and Hispanics, respectively. Decreasing numbers of students were found in the remaining profile categories, however, no Anglos fell into the PFP profile and no Hispanics fell into either the PFF or FFP profiles.

Table 27

Frequencies and Percentages of Pueblo, Anglo, and Hispanic Students by SOMPA Profile

| ETHNICITY | | | ANGLO | | HISPANIC | |
|---|---|---|---|---|---|---|
| SOMPA PROFILE | | | N | % | N | % |
| Medical | Social | Pluralistic | | | | |
| P | P | P | 129 | 73.7 | 102 | 68.9 |
| P | P | F | 9 | 5.1 | 15 | 10.1 |
| P | F | F | 2 | 1.2 | 0 | .0 |
| P | F | P | 0 | .0 | 1 | .7 |
| F | P | P | 27 | 15.4 | 20 | 13.5 |
| F | P | F | 5 | 2.8 | 9 | 6.1 |
| F | F | P | 1 | .6 | 0 | .0 |
| F | F | F | 2 | 1.2 | 1 | .7 |

Question 2: Does use of the SOMPA profiles assist in delineating trends in educational placements after assessment?

Table 28 presents data on the number of Anglos and Hispanics by SOMPA profile who receive specific services after SOMPA evaluation. As indicated, most students passed all three of the SOMPA's models which were used to create the profile variable, therefore, most students were placed in full-time regular education (41 Anglos; 34 Hispanics), regular education with LD part-time (58 Anglos; 50 Hispanics), and regular education with language therapy and with either EMR, LD or BD part-time services (16 Anglo; 6 Hispanics). However, 2 Anglo and 3 Hispanic students who obtained a PPP profile were placed in EMR classes full-time, an inappropriate placement according to the philosophical tennets of the SOMPA. Of the three children who failed measures on all three models, one was placed in an EMR class part-time, one was placed in regular education with language therapy and with EMR, LD, or BD part-time services, and the last was placed in a full-time EMR class. Of these three, only the one placed in the full-time EMR class was Hispanic.

One other finding was that students who obtained a FPP profile were more likely to be placed in part-time LD classes than in any other placement.

In summary, the data suggests that although the profile variable as it is now conceptualized may be somewhat useful to predict placement, it is altogether quite weak. Other combinations of SOMPA scores should be attempted.

Table 2

Frequencies for Anglo and Hispanic Stude
Pluralistic Model of SOMPA Profiles and by

| SOMPA PROFILE | PPP | | PPF | | PFP | | PFF | |
|---|---|---|---|---|---|---|---|---|
| ETHNICITY | A | H | A | H | A | H | A | |
| PLACEMENT AFTER SOMPA | | | | | | | | |
| Regular Education: Full Time | 41 | 34 | 2 | 3 | 0 | 1 | 0 | |
| Regular Education with Educable Mentally Retarded (EMR) Placement | 0 | 0 | 2 | 1 | 0 | 0 | 1 | |
| Regular Education with Learning Disabled (LD) Placement | 58 | 50 | 1 | 1 | 0 | 0 | 0 | |
| Regular Education with Behavioral Disorder Disordered (BD) Placement | 3 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Regular Education with Language Therapy | 7 | 3 | 0 | 1 | 0 | 0 | 0 | |
| Regular Education with Language Therapy and EMR or LD or BD Placement | 16 | 6 | 0 | 1 | 0 | 0 | 0 | |
| Regular Education with Other Placement | 2 | 6 | 0 | 0 | 0 | 0 | 0 | |
| Educable Mentally Retarded: Full Time | 2 | 3 | 4 | 8 | 0 | 0 | 1 | |
| Other Placements: Full Time | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| TOTAL BY PROFILE AND ETHNICITY | 129 | 102 | 9 | 15 | 0 | 1 | 2 | |
| TOTAL BY PROFILE | 231 | | 24 | | 1 | | 2 | |

ts by Medical, Social System, and
Placements After SOMPA Administration

| | FPP | | FPF | | FFP | | FFF | | |
|---|---|---|---|---|---|---|---|---|---|
| H | A | H | A | H | A | H | A | H | TOTAL BY PLACEMENT |
| 0 | 4 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 90 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 6 |
| 0 | 15 | 8 | 1 | 2 | 1 | 0 | 0 | 0 | 137 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| 0 | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 28 |
| 0 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 12 |
| 0 | 4 | 2 | 4 | 5 | 0 | 0 | 0 | 1 | 34 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 27 | 20 | 5 | 9 | 1 | 0 | 2 | 1 | 323 |
| | 47 | | 14 | | 1 | | 3 | | |

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The Issue of Passing/Failing "Traditional" and Pluralistic Criteria

In this section of the results, Mercer's findings comparing these combinations of criteria are replicated.

Question: How many children pass and fail traditional criteria; IQ with pluralistic norms; adaptive behavior?

Figure 8, adapted from Mercer's Labeling the Mentally Retarded (1973b, p. 262), is a replication and expansion of Mercer's categories for children who pass and fail traditional and pluralistic criteria. In the Pueblo sample, which consisted of children who were receiving initial evaluations as well as reevaluations, 323 children had complete data for this analysis. Of that number, 275 passed the IQ when the 3% criterion was applied. Two hundred sixty-nine passed both the IQ test and the IQ with pluralistic norms, and 6 passed the traditional IQ while failing the IQ with pluralistic norms. Of the 48 who failed the IQ test when the 3% criterion was employed, 37 also failed the IQ with pluralistic norms while 11 failed the traditional IQ but passed the IQ with pluralistic norms.

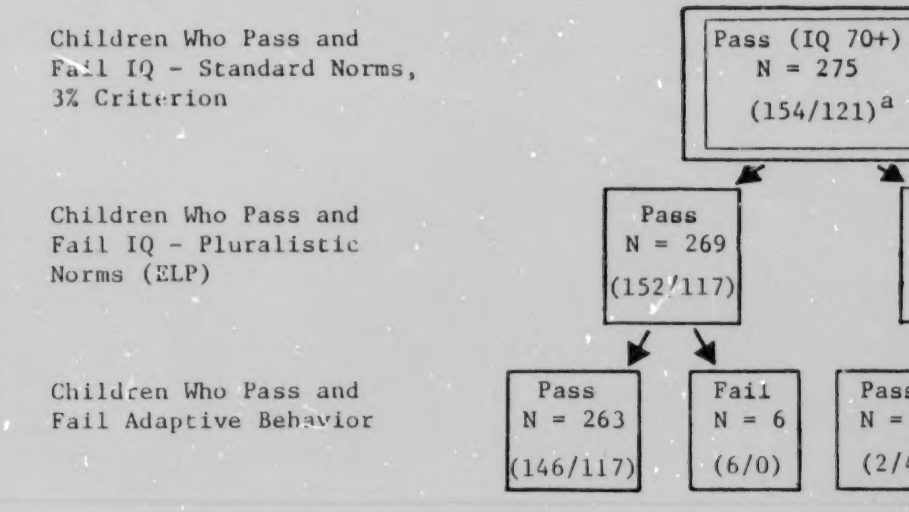
Additional findings were highlighted when the assessment of adaptive behavior was included. Of the 269 who had passed both the IQ measures, 263 also passed the adaptive behavior measure while 6 failed it. All 6 students who passed the traditional IQ and failed the IQ with pluralistic norms also passed the adaptive behavior scale.

Of those who failed the traditional IQ and the IQ with pluralistic norms (N = 37), 5 also failed adaptive behavior while 32 passed the measure. Of those who failed the traditional IQ and passed the IQ with

Fig

Comparison of the Frequency of Refe
the Traditional IQ, the IQ with Pluralistic Norms

N =



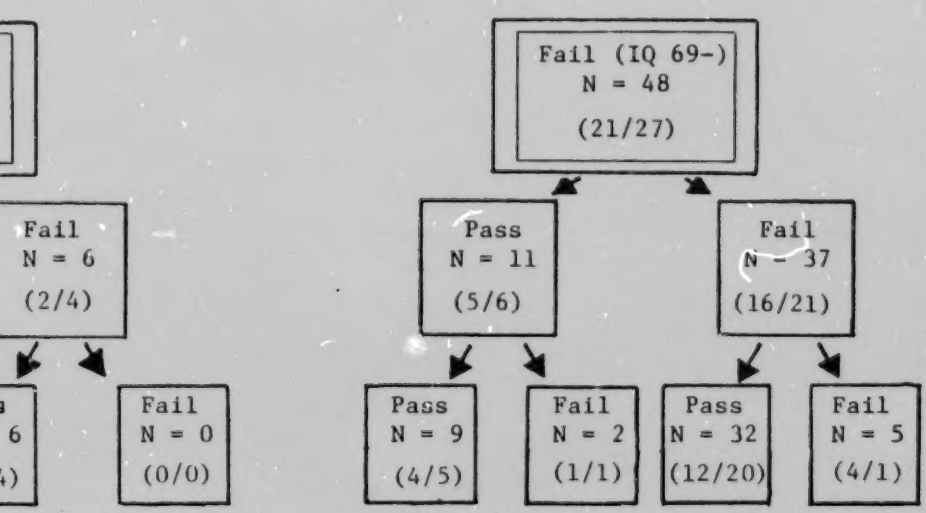

[a]The first numeral in parenthesis represents the number of
of Hispanics in the cell.

Note: Adapted from Labeling the Mentally Retarded by J.

gure 8

erred Pueblo Students Who Pass and Fail
(ELP), and the Adaptive Behavior Inventory for Children

= 323




Anglos in the cell; the second number indicates the number

R. Mercer, 1973, p. 262.

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pluralistic norms (N = 11), 9 passed and 2 failed the adaptive behavior scale.

Table 29 presents an analysis of the placement of these children by the categories which were generated by Mercer and in this study. In the category where children pass all three measures, the majority of students were subsequently placed in either full-time regular education (N = 82) or in regular education with part-time LD services (N = 127). Of the four children who passed both measures and failed the ABIC, 2 were placed in regular education with part-time LD services while 2 were placed in full-time EMR classes. Students with the pass, fail, pass pattern (N = 6) were most often placed in part-time LD classes (N = 3).

Students who failed the traditional IQ while passing both the ELP and the ABIC (N = 9) were most often placed in full-time EMR classes (N = 6). Those who failed the IQ, passed the ELP and failed the ABIC were placed in full-time regular education (N = 1) and regular education with part-time LD services (N = 1). Children who failed both the IQ and ELP while passing the ABIC were most often placed in full-time EMR classes (N = 20) although some were also placed in regular education with part-time EMR services (N = 4). Four of these students were also placed in a full-time regular education program. Those who failed all three measures (N = 5) were placed most often in part- (N = 2) and full-time (N = 2) EMR classes.

Since the sample size in some cells makes generalization problematic, conclusions may only be drawn about the more typical

Table 2

Frequencies of Anglo and Hispanic Students
SOMPA Measures by Placement Af

| SOMPA CRITERIA | Pass IQ Pass ELP Pass ABIC | | Pass IQ Pass ELP Fail ABIC | | Pa Fa Pas |
|---|---|---|---|---|---|
| ETHNICITY | A | H | A | H | A |
| PLACEMENT AFTER SOMPA | | | | | |
| Regular Education: Full Time | 43 | 39 | 1 | 0 | 1 |
| Regular Education with Educable Mentally Retarded (EMR) Placement | 0 | 0 | 0 | 0 | 0 |
| Regular Education with Learning Disabled (LD) Placement | 71 | [illegible] | 2 | 0 | 1 |
| Regular Education with Behavioral Disordered (BD) Placement | 2 | 1 | 1 | 0 | 0 |
| Regular Education with Language Therapy | 8 | 3 | 0 | 0 | 0 |
| Regular Education with Language Therapy and EMR or LD or BD Placement | 18 | 8 | 0 | 0 | 0 |
| Regular Education with Other Placement | 3 | 8 | 0 | 0 | 0 |
| Educable Mentally Retarded: Full Time | 1 | 2 | 2 | 0 | 0 |
| Other Placements: Full Time | 0 | 0 | 0 | 0 | 0 |

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Passing and Failing Traditional and
ter SOMPA Administration

| ss IQ<br>il ELP<br>s ABIC | | Fail IQ<br>Pass ELP<br>Pass ABIC | | Fail IQ<br>Pass ELP<br>Fail ABIC | | Fail IQ<br>Fail ELP<br>Pass ABIC | | Fail IQ<br>Fail ELP<br>Fail ABIC | |
|---|---|---|---|---|---|---|---|---|---|
| H | | A | H | A | H | A | H | A | H |
| 0 | | 1 | 0 | 0 | 1 | 1 | 3 | 0 | 0 |
| 0 | | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 0 |
| 2 | | 0 | 2 | 1 | 0 | 1 | 1 | 0 | 0 |
| 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 0 | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1 | | 3 | 3 | 0 | 0 | 8 | 12 | 1 | 1 |
| 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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patterns. First, children who pass all measures are most likely to receive either regular education full-time or regular education with part-time LD services. Children who fail the traditional IQ while passing the other two are most likely to receive full-time EMR services as are those who fail both IQ measures and pass on adaptive behavior. Also, children who pass the IQ criteria are placed in regular class full-time or in part-time LD classes. Those who fail the standard IQ criterion (N = 48) regardless of their scores on other measures tend to be placed in either full-time (N = 28) or part-time (N = 6) EMR placements. There seems to be little attention to adaptive behavior and pluralistic scores in forming placement decisions.

Although these conclusions are tentative, they represent an extension of existing information on the actual use of SOMPA scores in indicating placement outcomes for students.

## The Issue of Staff Utilization

Many practitioners in assessment have postulated that implementation of the SOMPA will effect the use of assessment staff in the public schools. This section of the results looks not only on the numbers of assessment and other supportive staff employed by Pueblo, but also at the numbers of teachers employed in their educational programs from 1970-1978.

Question 1: What was the distribution of teachers employed in Pueblo from 1970-1978?

Table 30 reports the number of teachers employed in both regular and special education programs in the Pueblo District #60 schools. As noted, while the numbers of regular educators dropped by 10% and leveled off in 1976, the number of special education teachers for EMR programs dropped sharply, by about 50% between 1974-75 and 1975-76. While this occurred, the numbers of LD teachers employed increased, particularly between the 1975-1976 and the 1976-1977 school years. District personnel indicated that much of the drop in numbers of regular education staff was due to declining district enrollment. The increase in LD teachers was due not only to the increasing numbers of children needing such services, but also to a district emphasis on providing more special services which were less restrictive to special needs students, thus complying with legal mandates.

Table 31 presents data on the number of special education support personnel hired during this same time period. As shown, social workers were not employed by Pueblo until the SOMPA was introduced to the

Table

Teachers Employed for Education Programs in

| YEAR | 1970-71 | 1971-72 | 1972 |
|---|---|---|---|
| PROGRAM | | | |
| Special Education: | | | |
| Educable Mentally Handicapped | 42 | 43 | 4 |
| Trainable Mentally Handicapped | 0 | 0 | |
| Educationally Handicapped: Learning Disabilities | 4 | 4 | |
| Educationally Handicapped: Behavior Disorders | 2 | 2 | |
| Physically Handicapped | 4 | 3 | |
| Visually Handicapped | 1 | 1 | |
| Aurally Handicapped | 2 | 3 | |
| Speech/Language | 7 | 7 | |
| Work Experience Study | 9 | 9 | |
| Homebound | 3 | 3 | |
| Aides - Instructional | 0 | 0 | |
| TOTAL SPECIAL EDUCATION PERSONNEL | 74 | 75 | 8 |
| Regular Education: | | | |
| Elementary (K-5) | 618.85 | 637.25 | 61 |
| Middle School (6-8) | 302 | 315.70 | 31 |
| Senior High (9-12) | 306 | 318.50 | 46 |
| TOTAL REGULAR EDUCATION TEACHERS | 1226.85 | 1271.45 | 139 |
| TOTAL FACULTY | 1300.85 | 1346.45 | 147 |

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the Pueblo District #60 Schools, 1970-1978

| -73 | 1973-74 | 1974-75 | 1975-76 | 1976-77 | 1977-78 |
|---|---|---|---|---|---|
| | | | | | |
| 5 | 55 | 42 | 22 | 20 | 20 |
| 0 | 0 | 0 | 0 | 0 | 10 |
| 3 | 7.5 | 19 | 24 | 49 | 50 |
| 2 | 3 | 2 | 5 | 4 | 4 |
| 4 | 2 | 2 | 2 | 2 | 2 |
| 1 | 1 | 2 | 2 | 2 | 3 |
| 5 | 5 | 6 | 5 | 5 | 5 |
| 7 | 7 | 7 | 9 | 10 | 12 |
| 9 | 9 | 9 | 8 | 8 | 8 |
| 3 | 3 | 4 | 3 | 3 | 3 |
| 3 | 3 | 3 | 4 | 6 | 23 |
| 2 | 95.5 | 96 | 84 | 109 | 104 |
| | | | | | |
| 5 | 585 | 582.5 | 586 | 568 | 571.05 |
| 5 | 315 | 337 | 325.5 | 306 | 295.50 |
| 1.5 | 387 | 416.5 | 415.5 | 392 | 377.50 |
| 1.5 | 1287 | 1336 | 1327 | 1266 | 1244.05 |
| 3.5 | 1382.5 | 1432 | 1411 | 1375 | 1384.05 |

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Table 3

Special Education Support Personnel Employed

| YEAR | 1970-71 | 1971-72 | 1972-7 |
|---|---|---|---|
| STAFF | | | |
| Nurses | 17 | 17 | 17 |
| Psychiatrists | 0 | 0 | 0 |
| Psychologists | 2 | 2 | 2 |
| Social Workers | 0 | 0 | 0 |
| Supervisors | 0 | 0 | 0 |
| Assistant Directors | 0 | 0 | 0 |
| Director | 1 | 1 | 1 |
| TOTAL PERSONNEL | 20 | 20 | 20 |

l

l in the Pueblo Public Schools, 1970-78

| '3 | 1973-74 | 1974-75 | 1975-76 | 1976-77 | 1977-78 |
|---|---|---|---|---|---|
| | 17 | 17 | 17 | 17 | 18 |
| | 0 | 0 | 0 | .20 | 0 |
| | 5 | 5 | 6 | 6 | 6 |
| | 0 | 0 | 4 | 4 | 5 |
| | 1 | 1 | 5 | 5 | 5 |
| | 0 | 0 | 1 | 1 | 1 |
| | 1 | 1 | 1 | 1 | 1 |
| | 24 | 24 | 34 | 34.20 | 36 |

school district. Social workers were hired to conduct the complete parent interview, which included obtaining information on adaptive behavior and the health history, and were responsible for integrating this information with their partners on the assessment team: the school psychologist and the school nurse. An additional school psychologist was also employed during the same year.

In summary, additional supportive staff and teachers of children with learning disabilities were needed when the SOMPA was implemented in the Pueblo District #60 schools. The finding of the need for additional assessment personnel supports what is suggested in the literature, while the change in instructional personnel is a related but separate phenomenon.

## Discussion

In the present study, a number of issues regarding the effects of implementing the System of Multicultural Pluralistic Assessment were raised. This section presents a discussion of the findings related to each issue.

### The Issue of Internal Validity

The present research dealt with the issue of internal validity from three perspectives: (a) internal validity within instruments, (b) internal validity within each of the three models, and (c) internal validity between models. The discussion of each is now offered.

Internal validity within instruments. The first instrument to be discussed is the Physical Dexterity Tasks. As previously noted in Table 11, intercorrelations between subscales of this instrument,

although moderate, are much greater for the referred Pueblo sample than they were for the California general population sample. This finding was expected since the higher proportion of physical anomalies within an atypical population such as the one in Pueblo increases the variance on such measures which in turn tends to result in higher correlations.

For the Health History Inventories, intercorrelations between subscales, although low, were also higher for the Pueblo sample than for the general population sample from California, thereby reaffirming the results and interpretations on the Physical Dexterity Tasks.

On the Adaptive Behavior Inventory for Children (ABIC), intercorrelations among subscales were very high and similar for both the California and Pueblo samples. This finding is consistent with that of Buckley and Oakland (Note 12) who found that intercorrelations of the ABIC subtests and the ABIC Average were roughly equivalent among the Austin sample, the Corpus Christi sample, and the California sample.

Internal validity within each model. Within the Medical Model, correlations among measures, while relatively low, were much higher for the referred Pueblo sample than they were for the California general population sample. This may again indicate that the referred sample may have experienced more health related insults which could lead to lower functioning on other Medical Model measures than did the general population sample. This again reflects the skewed nature of the Pueblo sample. The higher correlations between the Physical Dexterity Tasks and the Bender Gestalt could also be due to the greater variance in the Pueblo sample.

Within the Social System Model, correlations between the ABIC and the School Functioning Level (SFL) scales were found to be higher than those found in the California general population sample, but generally moderate. This finding could be due to greater variability in the Pueblo sample than in the California sample. Kazimour, (1979) also found this in her Arizona sample. In both her work and in the Pueblo study, low correlations between the ABIC and SFL reflects the relative independence of the two measures.

Internal validity among models. Correlations of the Medical Model measures and the Social System Model measures although only moderate were found to be much higher for the atypical Pueblo sample than they were for the general population California sample on all comparisons except those made with Visual Acuity. Correlations of the Pluralistic Model measures with the Social System Model measures and the Medical Model measures were all moderate, though statistically significant.

In summary, the internal validity of the SOMPA was found to be sound. Intercorrelations within instruments were high and correlations between measures were low, thus indicating independence of the measures. The internal validity of subscales within the three new instruments of the SOMPA was found to be consistent with the small amount of previous research which has been generated. Higher correlations within measures both in the Pueblo sample and in the Tebeleff and Oakland (Note 10) study may be due to the nature of the population: a referred sample.

Miniscule correlations between Medical Model measures and the Sociocultural Scales point to the absence of sociocultural differences in these measures. The higher correlations of the Sociocultural Scales with the ABIC and the SFL scores may be accounted for by the greater sociocultural variance in the Pueblo sample. In consonance with the findings of Buckley and Oakland (Note 11) in Austin and Corpus Christi, Texas, Urban Acculturation was also the best predictor of ABIC total scores for the Pueblo sample. In comparison with their findings regarding the amount of overall variance in ABIC scores which is explained by the Sociocultural Scales (10%), in the Pueblo sample 12% of the overall variance in ABIC scores was explained by the Sociocultural Scales. This differs from the range reported by Mercer (1979b) in which between 1.2% (Family) to 2.6% (ABIC Total) of overall variance in ABIC scores was explained by the Sociocultural Scales. According to the Pueblo data, local norms for the ABIC may be needed.

The Issue of Ethnic Differences in Measures

As noted earlier, each model within the SOMPA has its own set of assumptions upon which it is based. The Medical Model measures would, theoretically, show no ethnic differences since medical pathology is not culture bound, but rather is transcultural. The Social System Model measures are role and culture-specific and would therefore reflect ethnic differences. Pluralistic Model measures would not be expected to reflect ethnic differences since they are based upon Sociocultural Scales which are designed to be used to reduce differences between ethnic group scores. These differences would be

expected to be most clear cut in a general population sample as opposed to a referred population sample.

It was found in the referred Pueblo sample that few ethnic differences on Medical Model measures existed. Furthermore, no ethnic differences were found on the Social System Model's adaptive behavior measure. These findings support Kazimour's work and Mercer's contention that pluralistic norms for the ABIC are not warranted. However, statistically significant ethnic differences on School Functioning Level (a Social System Model measure) support Oakland's (Note 15) statement that pluralistic norms on the measures of School Functioning Level (WISC-R) scores are needed. The fact that significant differences on Estimated Learning Potential remain suggests that current adjustments are insufficient.

The Issue of Ethnic Disproportionality in Special Education

The fact that minorities are over-represented in classes for the educable mentally retarded (EMR) is one of historical importance which was investigated in this study. It should be noted that in this study only the overrepresentation of Hispanics in special education programs in the Pueblo District #60 schools was dealt with since other minority groups formed less than 3% of the total elementary school population.

As previously noted in Table 21, Hispanics were overrepresented in classes for EMR students until 1974-1975 school year, one year prior to the SOMPA's adoption in District #60. During that same year, Hispanics became underrepresented in classes for learning disabled (LD) students, classes which had previously shown no disproportional

representation of this group while their overrepresentation in EMR classes decreased to a nonsignificant level. One explanation for this shift may be found when one considers the referral-to-placement paradigm which was used in Pueblo during these years. Beginning in the 1974-1975 school year, a new referral system was operationalized in the school system. Pueblo went from a district which used a "traditional" referral-to-placement process as shown in Chapter I, Figure 2, to a district which held building-level screenings as shown in Chapter I, Figure 1. Although this seemed to help district personnel correct their overassignment of Hispanics to EMR programs, there may have been a lag in providing LD resource teachers to those largely Hispanic schools which had previously been served in EMR programs.

Beginning in 1975-1976, the SOMPA was adopted in the Pueblo District #60 schools. As noted in Chapter III, Table 8, which presented the Pueblo sample, few students were assessed with the SOMPA during the beginning of that school year while district assessment personnel were becoming familiar with the SOMPA. Assessments with the SOMPA became more frequent during the second half of the school year. The fact that Hispanics again became significantly overrepresented in EMR classes that year could be due to several factors. First, a shift in the number of Hispanics who were in LD classes that year declined to a level of nonsignificance; some of these students may have been subsequently placed in the EMR classes. Second, some variation in the new referral procedure could have been occurring, thereby confounding the effects of implementing the new assessment system with the

difficulties in conducting the new referral-to-placement paradigm which was again altered with the SOMPA's adoption to include increased input from a more diverse number of assessment personnel. Third, some changes in the type of student who was referred may have occurred since an increased emphasis was placed on the function of the building-level screening committee. This last conclusion receives support from the fact that Hispanics were for the first time overrepresented in Speech Handicapped classes during the 1975-1976 school year, an assignment which should not have been effected by use of the SOMPA since the SOMPA contains no measures of language pathology.

The most significant finding of this portion of the study, however, is that after a full year of implementation of the System of Multicultural Pluralistic Assessment, minorities are not significantly overrepresented in any special education program in the Pueblo District #60 elementary schools. It should be again pointed out that this analysis was conducted with only children who were in the appropriate age group for assessment with the SOMPA, elementary children aged five thorugh eleven. This finding regarding the placement of minorities in the District #60 schools if of great import since it provides the first support for the educational relevance of Mercer's SOMPA.

The Issue of Placement Before and After SOMPA Administration

Of the elementary students who were assessed with the SOMPA, all students who had complete data on ethnicity, sex, placement before SOMPA, placement after SOMPA, Physical Dexterity Average, ABIC

Average, SFL Full Scale, and ELP Full Scale were analyzed to determine placements which occurred as a result of using the SOMPA and the students' scores on various SOMPA measures. From this point, the discussion will deal with this subgroup of elementary children.

Before SOMPA assessment, twice as many referred Anglo students were receiving full-time regular education services as Hispanics. However, after a SOMPA assessment, these numbers were roughly equal. The number of both Anglo and Hispanic students receiving regular education with part-time LD services doubled. While both part-time and full-time EMR services to Hispanic students dropped and Hispanic students began receiving services in other areas, for Anglos only the services for part-time EMR classes dropped; the number of Anglos in full-time EMR classes almost doubled. The findings regarding placement before and after SOMPA assessment suggest that both Anglos and Hispanics are receiving more specialized services than they did before assessment, however, Hispanics appear to be receiving these services in less restrictive settings than are the Anglos. The most prominent placement shift for both groups was into classes for the learning disabled student.

Moves of students among placement options was also found to reflect real differences in scores on SOMPA measures. EMR students performed more poorly than other groups on Physical Dexterity Tasks, Bender Gestalt, and the ABIC as well as on the measures of School Functioning Level and Estimated Learning Potential. One unusual finding was that students placed in full-time EMR classes had higher

ABIC scores than did students placed in regular education with part-time EMR services. Since the full-time EMR placement was used for relatively few pupils and no other full-time placements were utilized, it may be that unique problems have little to do with the corrected definition of EMR.

The findings suggest that SOMPA scores are related to decisions about student placement in unexpected ways, but it is unclear whether this reflects the direct use of SOMPA or the sensitivity of the SOMPA to important pupil characteristics which influence decision-making.

The Issue of Profile Indicating Placement

While the development of a SOMPA profile summarizing whether the child has passed or failed Medical Model, Social System Model, and Pluralistic Model criteria is intrinsically appealing in its potential use for indicating placement, the use of PD Total, ABIC Average, and/or SFL Full Scale, and ELP Full Scale as suggested in this study was not supported. Too few referred pupils (7) failed the social system criteria (requiring a failing score on both adaptive behavior and School Functioning Level) to make these profiles useful. The pluralistic criterion seems to result in EMR placement for two-thirds of those failing the cut-off, regardless of their performance on other criteria. Failing medical criteria leads to LD or other special education placements. Passing criteria still leads to placement in LD or other part-time assignments, but almost never to EMR placements.

The Issue of Passing/Failing "Traditional" and Pluralistic Criteria

In a replication and extension of Mercer's Riverside Study (1973b), the present study sought to determine the numbers of children who passed and failed traditional and pluralistic criteria for classifying children as retarded. In so doing, it was found that by using the SFL with a cutoff of 69 or less, 85% of the students passed and 15% failed the criterion. When Estimated Learning Potential was added as a criterion, 12% still failed. However, when the adaptive behavior requirement was then added, only 2% met all criteria for labeling as mentally retarded. From this data, it appears that the use of the ABIC will be more important in reducing EMR certification for students than will use of the ELP.

The Issue of Staff Utilization

In reporting the numbers of staff used in Pueblo District #60 after the SOMPA was adopted, it was observed that greater numbers of teachers for LD students were employed as well as additional assessment personnel, particularly social workers. While the shift toward LD as a preferred placement rather than EMR took place when Pueblo began their change in the referral-to-placement procedure (the year before SOMPA assessments began), the employment of more LD teachers was most pronounced during the second year of SOMPA's implementation.

In summary, in this chapter the results and discussion on the seven major issues posed by this study were addressed. The internal validity of the SOMPA was found to be good; correlations were moderate and indicated relative independence of the different classes of

measures. The SOMPA appears to have helped correct for the overrepresentation of Hispanic students in special education programs in the Pueblo District #60 schools, thereby providing evidence of its relevance in adding to professionals' abilities in making racially and culturally nondiscriminatory placement decisions for elementary children. Few ethnic differences were found on Medical Model measures and the ABIC, while ethnic differences were apparent on the SFL and ELP scores, thus reaffirming the need for pluralistic norms. Students were found to be receiving educational services in less restrictive settings than they had before SOMPA was introduced into the Pueblo District #60 schools. The SOMPA profile combinations created were limited in their usefulness because of the low frequency of several of the profiles. However, it appears that other combinations of SOMPA scores could lead to predictions of placement. The issue of passing/failing traditional and pluralistic criteria was addressed by the discovery that the use of the 70 IQ cut-off had the greatest effect in reducing eligibility for MR labeling. The ABIC also had a marked effect while the use of pluralistic norms had only a very small effect. More assessment personnel were needed when using the SOMPA. The provision of supplementary LD services mandated the need for more teachers in this area.

Overall, use of the SOMPA appears to result in a significant number of educational changes within a multi-ethnic school system in both the assessment and subsequent placement of students as well as in the utilization of district personnel.

# CHAPTER VI

## SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR FUTURE RESEARCH

The need for a comprehensive assessment system which would assist professionals in conducting culturally and racially nondiscriminatory evaluations for children is pronounced. The legislative imperative of P.L. 94-142, Section 504 of the Vocational Rehabilitation Act of 1973, and many state laws as well as the litigative intent of recent court cases emphasizes this fact. In reviewing the literature which pertains to racially and culturally nondiscriminatory assessment, it becomes obvious that to date no procedure has been developed to meet this need. The present research, which centered around the effects of implementing the System of Multicultural Pluralistic Assessment (SOMPA), was designed to determine if the SOMPA may be viewed as an evaluation procedure which operates to assist professionals in conducting assessments which lead to racially and culturally nondiscriminatory educational decisions for children.

The purpose of this chapter is to summarize and discuss the entire research effort. The chapter is organized into three sections. First, a summary of the study and findings shall be presented. Second, conclusions which may be drawn from the research effort are offered. Implications for future research in the area of culturally and racially nondiscriminatory assessment, specifically in regard to the System of Multicultural Pluarlistic Assessment, are suggested last.

## Summary

In the study, one of the newest and most promising efforts at multidimensional, nonbiased assessment, the System of Multicultural Pluralistic Assessment (SOMPA), was evaluated. Particular attention was directed toward the impact of the SOMPA on educational decision-making and on educational planning for exceptional children. It was to the properties of SOMPA regarding the "multidimensionality" of its instruments and to the educational changes in a multi-ethnic school district which occurred when the SOMPA was adopted that the present research effort was addressed.

The theoretical framework of the study was based on a referral-to-placement paradigm which assumes that differential programming will result from differential assessment. That is, utilization of the System of Multicultural Pluralistic Assessment in evaluating a child will result in different education outcomes for that child than when a "traditional" type of assessment is conducted. Several questions of the study sought to determine if the assumptions underlying this theoretical framework were, functionally sound while other questions addressed a variety of issues which may be raised when one considers potential effects of the SOMPA's use.

The questions of the study were presented in the form of seven issues. On the first issue, that of the internal validity of the SOMPA, the intercorrelations among SOMPA measures were examined to determine whether the SOMPA's claim to multidimensionality is empirically justified. The second issue dealt with the presence or

absence of ethnic differences on SOMPA measures. It was expected that ethnic differences would not be found on SOMPA Medical Model measures but would be present on the SOMPA's Social System measures. The third issue addressed was that of ethnic disproportionality in special education programs. If the SOMPA was being used as its developers intended, one would expect to find minority group children represented in special education to the extent they are present in the school population. The fourth issue questioned referred childrens' education placements before and after they were evaluated/reevaluated with the SOMPA. It was expected that there would be a reduction in the number of children in EMR placements.

On the fifth issue, that of profile indicating placement, a profile score was generated based on whether major measures of each model were passed or failed. Numbers of Anglo and Hispanic children in each profile category and their placements were examined. A profile variable was created to determine if an overall SOMPA composite would be useful in indicating placement for either ethnic group under study. The sixth issue involved a replication of Mercer's Riverside Study in determining the numbers of Pueblo children who pass and fail "traditional" and pluralistic criteria when the SOMPA is employed. It was expected that this would present a clear picture of the extent to which SOMPA reduced the proportion of children eligible for labeling as retarded. The last issue under study was that of instructional and assessment staff utilization in Pueblo. It was of interest to delineate any system-level changes which occurred as a full or partial result of the SOMPA's adoption in the Pueblo District #60 schools.

The design of the study required two samples to be used to address the issues under consideration. First, a sample of the elementary students aged 5-11 years who were referred for possible special education placement and who attended the Pueblo District #60 schools in Pueblo, Colorado, were employed for all analyses. Second, to facilitate comparisons with standardization data on the issue of internal validity, the general population group which served as the SOMPA's standardization sample was employed.

Several procedures were employed in the collection of data for the study. SOMPA data on all Pueblo children who were assessed with the SOMPA between September 1975 and June 1977 were obtained from the Program Research in Integrated Multi-Ethnic Education at the University of California at Riverside. Placement data from the 1970-1971 school year through the 1977-78 school year was secured from individual student records in the district. System-level data on the numbers of instructional, administrative and support personnel who were employed in the Pueblo District #60 schools from 1970 through 1978 were also obtained from the district's central office files. California correlations between and among SOMPA measures were secured from the System of Multicultural Pluralistic Assessment: Conceptual and Technical Manual (Mercer, 1979b).

With the Pueblo data, two variables were created. The profile variable was designed to provide a composite score for each student according to whether s/he passed or failed the Medical Model, Social System Model, and/or Pluralistic Model. Scores on the Physical

Dexterity Average, the Adaptive Behavior Inventory for Children Average, the School Functioning Level Full Scale, and the Estimated Learning Potential Full Scale were used for the purpose of creating the profile variable. The second variable which was generated was the placement variable. This variable was set up so that it could not only be determined what placement a child received, but also the length of time spent weekly in that service. Nine categories of the placement variable which ranged from full-time regular education to full-time placements for the physically, visually, aurally, or multiply handicapped were generated. In all, these procedures provided data on SOMPA Medical Model measures, Social System Model measures, Pluralistic Model measures, Sociocultural Scale scores, placement information, and profile characterization.

The findings of the study on the internal validity of the SOMPA dealt with: (a) relationships within instruments, (b) relationships within each of the three models, and (c) relationships among the three models. On both the Physical Dexterity (PD) Tasks and the Health History Inventories, intercorrelations for the Pueblo referred sample were moderate and higher than those for the California standardization sample. However, on the Adaptive Behavior Inventory for Children (ABIC), Pueblo intercorrelations among subscales and the ABIC Average were very high and almost identical to those found with the general population sample from California. Within the Medical Model, Pueblo correlations between the PD Tasks and the Bender Gestalt were moderate and significantly higher than those found with the California sample

while all other correlations between the different Medical Model measures were low for both samples.

On Social System Model measures, the ABIC and SFL showed significantly higher correlations with one another in the referred Pueblo sample than those presented in the California general population sample. These correlations, although low moderate, were all positive.

Correlations between the Medical Model measures and Social System Model measures were also compared. Pueblo sample correlations were again found to be modest but generally higher than those from the California sample. Moderate correlations were found between the Pluralistic Model measures and the Medical Model and the Social System Model measures.

Correlations of the Sociocultural Scales with measures from the four models were also presented. Less sociocultural variation was found in PD Tasks and the Health History Inventories for the Pueblo sample than for the California sample. There was much greater variation in the Pueblo sample than the California sample, however, when the correlations of the Sociocultural Scales with the ABIC were considered. These correlations indicated that Urban Acculturation was the best single predictor of scores on the ABIC for both samples. This last finding also held true when correlations of the Sociocultural Scales with SFL were considered.

In summary, data from the Pueblo sample indicated that the internal validity of the SOMPA was sound and, with the exception of

subtests of the same instrument, measures appear to tap different variables. A summary of these correlations is presented in Table 32.

On the issue of ethnic differences in SOMPA measures, findings varied by the model which was being considered. On Medical Model measures where no ethnic differences were expected, few differences were found. Ethnic differences were expected and found on Social System Model measures. (However, they were not found on any subscale of the ABIC.) Unexpectedly, the Estimated Learning Potential scores from the Pluralistic Model also demonstrated significant ethnic differences which were as large as those found on School Functioning Level.

When one considered the issue of ethnic disproportionality in the Pueblo special education programs, it was found that the year after the SOMPA was first introduced in the district was the only year in which no disproportionality was observed. Thus, it appears that the SOMPA may have helped to correct for the previous ethnic disproportionality which had been documented in the schools, most notably in EMR classes.

The creation of the profile variable previously described seemed to be less useful than anticipated in determining if students with certain SOMPA score patterns were consistently placed in specific types of classes. Much of the weakness of the profile variable was the result of the low frequency of students failing the ABIC. Future research in developing a more valid method for predicting placement is needed.

Table

Summary of Correlation

| | | MEDICAL MODEL | |
|---|---|---|---|
| | | Physical Dexterity Average | Ben Ges |
| MEDICAL MODEL | Physical Dexterity Average | -- | |
| | Bender Gestalt | .55*** | |
| | Health History Inventory | -.05 to -.13** | -.15** |
| SOCIAL SYSTEM MODEL | ABIC Average | -- | |
| | SFL-FS | -- | |
| PLURALISTIC MODEL | ELP-FS | .45*** | .3 |

* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

e 32

s Among SOMPA Measures

| | | SOCIAL SYSTEM MODEL | |
|---|---|---|---|
| der talt | Health History Inventory | ABIC Average | SFL-FS |
| -- | -- | .23*** | .36*** |
| -- | -- | .22*** | .38*** |
| * to -.01 | -- | -.07 to .11** | -.09* |
| -- | -- | -- | .39*** |
| -- | -- | -- | -- |
| 6*** | -.10* | .38*** | -- |

In replicating data from Mercer's Riverside Study, it was found that three previously ignored cell combinations were highlighted when the referred Pueblo sample was used rather than the reevaluated Riverside group: (a) children who passed the traditional IQ with a score of 70 or more, passed the IQ with pluralistic norms, and failed the adaptive behavior measure, (b) children who passed the traditional IQ, failed the IQ with pluralistic norms, and passed the adaptive behavior measure, and (c) children who failed the traditional IQ, passed the IQ with pluralistic norms, and failed the adaptive behavior measure. General trends in this data indicated that 81% of the Pueblo sample passed all three measures while only 2% failed all three measures. From this data, it appeared that the use of the ABIC could be more important in limiting EMR certification for students than will use of the Estimated Learning Potential score. However, when examining actual assignment of children with different pass/fail patterns, it became apparent that the ABIC was not used to limit EMR classification.

On the issue of staff utilization, it was found that greater numbers of teachers for LD students were needed as well as additional assessment personnel, especially social workers.

## Conclusions

The findings on the seven issues under study in this research effort lead one to a number of conclusions. First, the internal validity of the SOMPA appears to be adequate. With the exception of intra-test relationships, correlations are modest, but generally in the expected directions, thus indicating the independence of SOMPA

models and measures within models. Instruments in the SOMPA seem to provide different information. Of particular importance is the independence of the ABIC and School Functioning Level. The finding that few ethnic differences were found on Medical Model measures and the ABIC, while ethnic differences were found on the SFL scores supports the need for pluralistic norms on the measures of School Functioning Level.

The percentage of variance in IQ found in this study is compared to that from previous studies in Table 33. As noted, the SOMPA Sociocultural Scales accounted for the greatest portion of variance in SFL scores. Mercer's standardization sample, the Pueblo sample, and Dewey's Arizona sample showed the decreasing amounts of sociocultural variance accounted for by these SOMPA measures. This suggests that other combinations of questions designed to reflect sociocultural variation might prove to be more effective than those employed by Mercer in the SOMPA.

On issues surrounding the use of SOMPA scores, it appeared that the SOMPA did assist professionals concerned with the assessment of all children in placing both Anglo and Hispanic students in special education programs to the extent they were represented in the general school population. As indicated earlier, this change should also be viewed from the perspective that changes were occurring in the referral-to-placement paradigm in Pueblo shortly before the SOMPA's adoption. Although this latter change occurred one year prior to the SOMPA's implementation, its effects may still have been felt during the

Table 33

Percentage Variance a WISC-R (SFL) Scores Accoun

| | Mercer (1979) CA General Population Sample | Oakland TX General Pop |
|---|---|---|
| TOTAL SAMPLE | | |
| Verbal | 27.0 | |
| Performance | 13.7 | no da |
| Full Scale | 24.0 | |
| ANGLO | | |
| Verbal | 20.3 | 39.7 |
| Performance | 8.8 | 16.0 |
| Full Scale | 17.6 | 36.0 |
| HISPANIC | | |
| Verbal | 22.1 | 33.7 |
| Performance | 3.6 | 13.0 |
| Full Scale | 15.2 | 28.1 |
| BLACK | | |
| Verbal | 10.2 | 18.5 |
| Performance | 11.3 | 11.6 |
| Full Scale | 13.7 | 17.6 |
| PAPAGO INDIAN | | |
| Verbal | | |
| Performance | no data | no da |
| Full Scale | | |

ted for by the SOMPA Sociocultural Scales

| (1977) ulation Sample | Dewey (1978) AZ General Population Sample | Talley (1979) CO Referred Sample |
|---|---|---|
| | | 20.3 |
| ta | no data | 10.9 |
| | | 18.5 |
| | 8.3 | 18.4 |
| | 4.6 | 14.9 |
| | 8.9 | 20.2 |
| | 14.7 | 19.0 |
| | 8.1 | 7.1 |
| | 12.9 | 14.2 |
| | 12.0 | |
| | 6.8 | no data |
| | 11.9 | |
| | 10.2 | |
| ta | 8.7 | no data |

first year of using the SOMPA. However, it would seem likely that the effects of students' placements during the SOMPA's second year were effected primarily by use of the SOMPA since the major changes in staffing procedures had occurred two years previously.

While further research needs to be conducted to determine the pattern of SOMPA score which best predicts placement, use of the ABIC, the SFL, and the ELP provided an interesting replication of Mercer's work with a reevaluated population. As in Mercer's study, most referred children passed the 70 IQ cutoff; use of the adaptive behavior criterion excluded more children from being defined as MR than did the pluralistic norms. However, an examination of subsequent placements suggests that the IQ measures rather than the ABIC appeared to receive primary consideration in making placement decisions.

The trends in staff utilization clearly point out that the social worker's role in collecting parent information on adaptive behavior and health history was seen as a vital one in Pueblo. The shifts which occurred in teaching assignment may have been due to both implementation of the SOMPA and district incentive to educate students in settings other than the restrictive EMR class.

In summary, when the SOMPA is used in a district of multi-ethnic composition, several shifts may occur. Greater numbers of nonmajority children may be educated in less restrictive settings than had historically been the case. Although pluralistic norms on measures of school functioning are indicated, it may be that the district should give greater emphasis to the use of adaptive behavior measures in

determining appropriate placements. While districts may find no need for pluralistic norms on the ABIC, they will want to determine if local norms for the ABIC are needed in their system. They will also need to assess their instructional and assessment personnel requirements before implementing the SOMPA. In viewing the effects of implementing SOMPA in the Pueblo schools, it appears that the SOMPA has successfully helped the district move toward a multidimensional, multi-staff perspective in obtaining and using assessment information to reach racially and culturally nondiscriminatory placement decisions for children.

The present study also raises a number of issues. First, does the SOMPA fulfill its authors' claims to be a racially and culturally nondiscriminatory evaluation system? Does use of the SOMPA lead to nonbiased and appropriate placement decisions for children? Is it the reduction in the IQ cutoff level from one to two standard deviations below the mean or the use of the SOMPA which results in the change in ethnic composition found in special education programs within the district? Certainly, given the number of changes occurring within the school district before the SOMPA's implementation, one could not state that this system of assessment was the sole reason for change in the disproportionality of minority children which were present in their special education programs. However, given the qualitative evidence presented in Appendix E and the quantitative data presented in Chapter V, it does appear that the SOMPA assists professionals in making nonbiased placement decisions for children.

The question of the appropriateness of subsequent placements was one which was not addressed by this study directly; only the restrictiveness of the placement in terms of amount of time instructed and physical placement was recorded. Neither of these constructs are powerful enough to delineate the total "appropriateness" of a placement. The concept of most appropriate placement in least restrictive settings for all students, while of great importance, has yet to be defined in a comprehensive manner. Until such time, it would be difficult, at best, to determine the appropriateness of any student's placement. Therefore, this study used the more restricted concept of appropriateness (amount of time in a placement) to view the issue. In this sense, therefore, more students were receiving greater portions of the education in less restrictive settings. Since P.L. 94-142 and the Vocational Rehabilitation Act of 1973 suggest the regular classroom as the basis for comparison to determine the degree of educational restriction, the SOMPA did appear to assist professionals in making more of these least restrictive placement decisions, although the educational and individual appropriateness of these decisions was not determined in the study.

In considering the impact of reducing the IQ cutoff level, this study found that a large number of students would be exempt from MR labeling based only on this change (see Figure 8 in Chapter V). Therefore, is the time and effort it takes to administer the total SOMPA battery valid? The answer to this question, of course, depends on the user's goals for the SOMPA. Within the school system, is there

a need for assistance in the correction of disproportionality in special education programs? Is the Medical Model information of use to school districts as screening measures? Do districts use the SOMPA scores once they are obtained? In Pueblo, SOMPA scores were obtained and supplemented by education measures, observation, and a social history. The district appeared to use the SOMPA scores along with these other measures and professional judgment to determine a placement decision. Therefore, it appears that while this district did use the SOMPA scores, they did not use these scores in isolation. Test results were presented in group staffing sessions and discussed. Professionals, not test scores, determined placement decisions for children. SOMPA scores, in conjunction with others, were used to assist professionals in this responsibility. The future development of decision-rules for professionals' reference in using SOMPA scores would be a major contribution to the fields of school psychology and special education.

In summary, changes in the Pueblo district after the adoption of the SOMPA were found in two areas: system-level changes and individual- or child-level changes. System-level changes occurred with the systematization of the assessment process, a correction in the previous disproportionality of minority students in special education programs, the need for greater numbers of more highly skilled assessment personnel, and the increasing demand for teachers of the learning disabled. Individual-level changes were found in the reduction in the number of students assigned to self-contained classes

and the increase in the number of students receiving part-time LD services. A general trend toward education of these students in less restrictive settings was noted.

## Implications for Future Research

The results of this study suggest many diverse areas for future research. These findings have, in part, answered Oakland's questions regarding whether use of the SOMPA leads to educational decisions which are racially or culturally nondiscriminatory (1979b) and whether the norms generated from the SOMPA's California standardization sample are generalizable (1979a). However, questions remain regarding the validity of the Estimated Learning Potential, the best combination of SOMPA scores to predict placement, and the impact of the SOMPA upon teachers responsible for decertified students or students who are never placed in special education programs. It would also be of interest to determine how teacher input may be added to the data already obtained in the SOMPA to make this person a more integral part of the assessment process.

In a different view, since this research has shown that the use of ABIC should place much greater restrictions on placement than does the ELP but that ABIC appears to be ignored in decision-making, research to determine the external validity of the ABIC would seem to be a most fruitful area of future research. Concurrent interviews of both mother and father could be held to determine the degree of consonance between responses. Teachers may be interviewed to determine to what degree their responses on the ABIC would differ from those provided by the

parent. Perhaps the ABIC has validity in the larger community, but not in the school. Direct observation of the child in various social settings of importance could also be compared with parental report of social abilities. Research might be conducted with peers and siblings to determine how they perceive the target child's behavior; these scores could then be compared with parental account, teacher report, and direct observation. While these paradigms would be of experimental nature, school system based studies should also be conducted not only to determine if local norms on the ABIC are needed in other districts, but also to answer some of the issues raised by this research.

The most exciting research prospect which the current research effort has suggested to this researcher, however, is of a different nature. A most promising course for investigation would seem to be the extension of Mercer and Lewis' work on the SOMPA. This process would be one which would include in the SOMPA those environmental, ecologically-oriented measures (e.g., classroom climate) which would facilitate transfer of the SOMPA's scores into a number of educationally useful interventions for teachers and students. In this process, teacher input would be included to make the teacher a partner in the assessment and educational process with the school psychologist, the social worker, the school nurse, and the parent. It would, hopefully, combine the best of the norm-referenced instruments with parallel, complementary criterion-referenced instruments. Such a process would require a major research and development effort, but one which would have great potential benefit to children, parents,

teachers, school psychologists, and all persons concerned with the education of students in the least restrictive, most appropriate environments.

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# APPENDIX A

# LEGISLATION AND LITIGATION, 1800-1978

1800-1900

| | | |
|---|---|---|
| 1827 | P.L. 19-8 | Provided Federal land grant to the Deaf and Dumb Asylum in Kentucky |
| 1855 | P.L. 33-4 | Established Government Hospital for the Insane (Washington, D.C.) |
| 1857 | P.L. 93-46 | Established Columbia Institution for the Deaf, Dumb, and Blind |
| | U.S. Supreme Court's Dred Scott decision that Negroes were not citizens | |
| 1864 | P.L. 38-52 | Columbia Institute for the Deaf can confer degrees |
| 1874 | Ward v. Flood | Established principle that graded public school can refuse education to student who does not have enough education to enter lowest grade |
| 1879 | P.L. 45-186 | Congress authorized money for printing Braille materials |
| 1894 | Columbia Institution for the Deaf and Dumb is renamed Gallaudet College | |
| 1896 | Congress created National Department of Education later named U.S.O.E. (DHEW) | |

able 34

AND LITIGATION

00-1929

| | 1900-1929 |
|---|---|
| 1913 | 16th Amendment introduced Federal income tax |
| 1918 | P.L. 66-178 Provided rehabilitation for WWI veterans |
| 1919 | 18th Amendment brought prohibition |
| | Wisconsin State ex rel Beattie v. Board of Education, City of Antigo<br>Decided a CP student could not be educated in public school because of the "nauseating" effect he had on teachers and students |
| | P.L. 66-24 Provided additional aid to American Printing House for the Blind |
| 1920 | 19th Amendment gave the women the right to vote |
| 1925 | Smith v. Wayne<br>Michigan probate Judge ruled to permit sterilization of mental defectives |
| 1927 | Roberts v. Wilson<br>Missouri Court ruled the right to attend public school is fundamental and cannot be denied except for the general welfare |
| | P.L. 69-655 Amended Interstate Commerce Act to allow a blind person and a guide to travel for one fare |

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1930-1939

| | | |
|---|---|---|
| 1930 | P.L. 71-787 | Pratt-Smoot Act provided books for adult blind |
| 1931 | U.S.O.E. Section for Exceptional Children and Youth was established | |
| 1934 | P.L. 72-439 | Pratt-Smoot Act amended to allow mailing of books to the blind |
| | Board of Education of Cleveland Heights v. State ex rel Goldman | Ruled exclusion of a child of low mentality merely on the basis of tests prescribed by State Department of Education is unauthorized |
| 1935 | P.L. 74-271 | Social Security Act became law |
| 1936 | P.L. 74-732 | Randolph Sheppard Act provided authorization for blind persons to operate vending stands in Federal blindings |
| 1937 | P.L. 75-37 | Established special postage rates on material to the blind |
| | P.L. 75-184 | Amended Interstate Commerce Act to allow seeing eye dogs to accompany blind persons in interstate travel |
| 1938 | P.L. 75-739 | Wagner O'Day Act allowed sheltered workshops for the blind |

Table 35

OU AND LITIGATION

1930-1949

| | 1940-1949 | |
|---|---|---|
| 1941 | Committee v. Johnson | Massachusetts Court ruled children can be excluded from school for poor scholarship |
| 1943 | P.L. 78-113 | Barden-LaFollette Vocational Rehabilitation Act Amendments of 1943 increased services to blind; mentally retarded and mentally ill became eligible |
| 1948 | P.L. 80-617 | Civil Service Act amended so P.H. are not discriminated against in employment |
| | P.L. 80-402 | Smith-Mundt Information and Education Agency Exchange Act provided international exchanges in education |
| 1949 | P.L. 81-162 | Authorized appropriation for President's Committee on National Employ the Physically Handicapped Week |
| | P.L. 81-290 | Permitted braille writers to be sent at base rate |

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1950-1959

| | | |
|---|---|---|
| 1950 | Iowa State Board of Education v. Petty et al | Deaf child excluded by the Court from regular education |
| | P.L. 81-734 | Social Security Act Amendment of 1950 doubled funds to U.S. Children's Bureau |
| 1954 | Brown v. Board of Education | U.S. Supreme Court ruled segregation a violation of 14th Amendment |
| | P.L. 83-531 | Cooperative Research Act assigned $675,000 for M.R. Research |
| | P.L. 83-565 | Vocational Rehabilitation Amendments of 1954 provided for rehabilitation of the P.H. and M.R. |
| 1958 | P.L. 85-926 | Expansion of Teaching in Education of the Mental Retarded Act |
| | P.L. 85-864 | National Defense Education Act |
| | P.L. 85-905 | Captioned Films |

Table 36

N AND LITIGATION

950-1963

1960-1963

| | | |
|---|---|---|
| 1961 | P.L. 87-276 | Provided funds to train teachers of the hearing impaired and speech impaired |
| | P.L. 87-294 | Provided for distribution of special materials for the blind |
| | P.L. 88-368 | Juvenile Delinquency and Youth Offenses Control Act of 1961 |
| 1962 | P.L. 87-838 | Established Institute of Child Health and Human Development |
| | P.L. 87-715 | Amended P.L. 85-905, provided for captioned films, research, and training |
| 1963 | P.L. 88-164 | Mental Retardation Facilities and Community Health Centers Construction Act of 1963 (amended 1958 legislation to include all disabilities) |
| | P.L. 88-210 | Vocational Education Act - permanent state funding program |
| | P.L. 88-214 | Manpower Development and Training Act provided for work preparation for the Handicapped |
| | U.S.O.E. subsumed U.S. Occupational Education Section on Exceptional Children and Youth | |

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1964-1966

| | | |
|---|---|---|
| 1964 | P.L. 88-452 | Economic Opportunity Act of 1964 (Antipoverty Act) |
| | P.L. 88-1964 | Amendments to the National Defense Act of 1958 |
| | P.L. 88-352 | Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, religion, sex or national origin |
| 1965 | P.L. 89-10 | Elementary and Secondary Act (ESEA) |
| | P.L. 89-313 | Amendment to Title I ESEA |
| | P.L. 89-258 | Included media and equipment in captioned film legislation |
| | P.L. 89-105 | Community Mental Health Centers Act Amendments of 1965 |
| | P.L. 89-36 | Established National Technical Institute for the Deaf |
| 1966 | P.L. 89-333 | Vocational Rehabilitation Act Amendments of 1966 extended services to socially handicapped persons |
| | P.L. 89-750 | Title VI ESEA Amendments of 1966 |
| | P.L. 89-522 | Provided talking book services to the physically handicapped |
| | P.L. 89-694 | Established a secondary school for the deaf at Gallaudet Campus |
| | Baxstrom v. Herald | Found procedural due process must be applied to prevent unjustified civil commitments to institutions |

Table 37

N AND LITICATION

964-1969

1967-1969

1967 BEH is created with authority to establish resource centers

P.L. 90-35 Redesigned Title V if Higher Education Act to Education Professions Development Act

P.L. 90-99 Vocational Rehabilitation Amendments of 1967

P.L. 90-170 Mental Retardation Amendments of 1967

P.L. 90-247 Education of the Handicapped Act of 1967

1968 P.L. 90-480 Elimination of Architectural Barriers to the Physically Handicapped

P.L. 90-489 Establishment of the National Eye Institute

P.L. 90-538 Handicapped Children's Early Education Assistance Act

P.L. 90-576 Vocational Education Amendments of 1968

1969 P.L. 91-61 National Center on Educational Media and materials for handicapped

ESEA Title V amended to include L.D. students

Wolf v. State Legislature of the State of Utah
Found T.M.R. students in that State did not receive an appropriate education

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LEGISLATION

197

1970-1971

| | | |
|---|---|---|
| 1970 | P.L. 91-205 | Insured accessibility of handicapped to federally constructed facilities |
| | P.L. 91-230 | Elementary and Secondary Education Amendments (Section 806) authorized Title III and V monies from ESEA of 1965 to the gifted |
| | P.L. 91-517 | Developmental Disabilities Services and Facilities Construction Amendments of 1970 |
| | Diana v. State Board of Education in California | Ruled on assessment in primary language of the child |
| | Wyatt v. Aderhold | Alabama case ruling that the constitutional rights of hospitalized M.R. persons were being violated |
| 1971 | Wyatt v. Stickney | Alabama Court ruled that mentally ill patients have a right to adequate treatment |
| | Reid v. Board of Education of the City of New York | Ruled that undue delays in screening and placement of brain injured children prohibits them from receiving a free, appropriate education |

ble 38

AND LITIGATION

0-1972

| | | 1972 |
|---|---|---|
| 1972 | P.L. 94-424 | Economic Opportunity Act Amendment of 1972 |
| | P.L. 92-316 | Provided reduced rate or free transportation to attendants of the blind |
| | Pennsylvania Association for Retarded Citizens v. the Commonwealth of Pennsylvania | All children must be provided an education |
| | Mills v. Board of Education | D.C. case on tracking |
| | Colorado Association for Retarded Children v. the State of Colorado | Charged the State had not provided appropriate education for 20,000 handicapped children |
| | Kivell v. Nemostin | Connecticut case in which handicapped child is awarded tuition for out-of-state private education |
| | Larry P. v. Riles | California case filed and still pending - pertained to misclassification of minority children |

1973

| | | |
|---|---|---|
| 1973 | P.L. 93-233 | Social Security Amendments of 1973 included focus on child abuse and neglect programs |
| | P.L. 93-112 | Rehabilitation Act of 1973 |
| | P.L. 93-42 | Designated National Autistic Children's Week |
| | Kentucky Association for Retarded Citizens v. Kentucky State Board of Education | Denial of an appropriate education |
| | Lebanks v. Speers | New Orleans case on appropriateness of Black M.R. students' placements |
| | Morales v. Turman | Texas case spurring creation of community-based alternative to institutions |
| | New York State Association for Retarded Children v. Rockefeller/Parisi v. Rockefeller | Willowbrook (New York) case |
| | Kessalbrenner v. Anonymous | Stopped unnecessary inter-institution transfers |

Table 39

N AND LITIGATION

973-1974

| | | 1974 |
|---|---|---|
| 1974 | P.L. 93-247 | Child Abuse Prevention Act |
| | P.L. 93-380 | Education Amendments of 1974 guaranteed due process in placement, nondiscriminatory testing and confidentiality of school records |
| | P.L. 93-415 | Juvenile Delinquency and Prevention Act of 1974 |
| | P.L. 93-516 | Rehabilitation Act Amendments of 1974 authorized President to call a White House Conference on Handicapped Individuals |
| | In the Interest of G.H.: A Child | North Dakota case on tuition payments of P.H. child in residental facility |
| | Lau v. Nichols | Established right of minority to bilingual special education |
| | Maryland Association for Retarded Children et al v. State of Maryland | Provided free education to all persons age 5 through 20 |

Ta

LEGISLATION

197

1975-1976

1975 P.L. 94-142 Education of All Handicapped Children Act of 1975

1976 Hairston v. Drosnick
West Virginia case which mandated school officials to include the handicapped in regular classes

Regulations on Privacy Rights of Parents and Students were published

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AND LITIGATION

75-1978

1976-1978

1977 Regulations governing Section 504 of the Vocational Rehabilitation Act of 1973 were published

Regulations governing P.L. 94-142 were published

Barnes v. Converse College
South Carolina district court upheld the Section 504 requirement that universitites provide auxillary aides for handicapped students

Frederick L. V. Arthur Thomas
Mandated identification of all learning disabled students in Philadelphia

1978 The Larry p. case on culturally and racially nondiscriminatory assessment was reopened and heard in San Francisco, California

Rehabilitation, Comprehensive Services and Developmental Disabilites Amendments of 1978 designed to improve Federal and State coordination of services to handicapped; gave added support to Sections 501, 503, and 504 of the Rehabilitation Act of 1973

# APPENDIX B

## SOMPA STUDENT ASSESSMENT RECORD FORM

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# SOMPA

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## System of Multicultural Pluralistic Assessment

## Student Assessment Record Form

Jane R. Mercer • June F. Lewis

**Child's Name** _____ (Last) _____ (First) _____ (Middle) **Sex** _____ **Age** _____ (Years) _____ (Months)

**Home Address** _____ (Street) _____ (City) _____ (State) _____ (Zip Code)

**Names of Parents** _____ (Father) _____ (Mother)

**School** _____ **Grade** _____

**Location of Student Assessment** _____

**Name of Examiner** _____ **Language Used for Physical Dexterity Tasks and Bender** _____

### CHILD'S ETHNIC GROUP

____ Black
____ Hispanic
____ White
____ Other (specify: _____)

### CHILD'S AGE

| | Year | Month | Day |
|---|---|---|---|
| Date of Assessment | ____ | ____ | ____ |
| Date of Birth | ____ | ____ | ____ |
| Age at Assessment | ____ | ____ | ____ |

### PHYSICAL DEXTERITY TASKS

| | Raw Score | Scaled Score |
|---|---|---|
| Ambulation | ____ | ____ |
| Equilibrium | ____ | ____ |
| Placement | ____ | ____ |
| Fine Motor Sequencing | ____ | ____ |
| Finger-Tongue Dexterity | ____ | ____ |
| Involuntary Movement | ____ | ____ |
| Sum | | ____ |
| **Physical Dexterity Average Scaled Score (Sum ÷ 6)** | | ____ |

### BENDER VISUAL MOTOR GESTALT TEST

Raw Score ____ Scaled Score ____

### WEIGHT BY HEIGHT

| Height | Weight | Scaled Score |
|---|---|---|
| ____ inches | ____ pounds | ____ |

### VISUAL ACUITY

| | | |
|---|---|---|
| Uncorrected Vision | Right Eye | 20/____ |
| | Left Eye | 20/____ |
| Corrected Vision | Right Eye | 20/____ |
| | Left Eye | 20/____ |

### AUDITORY ACUITY

| | | 250 cps | 500 cps | 1000 cps | 2000 cps | 4000 cps |
|---|---|---|---|---|---|---|
| Uncorrected Hearing | Right Ear | ____ db | ____ db | ____ db | ____ db | ____ db |
| | Left Ear | ____ db | ____ db | ____ db | ____ db | ____ db |
| Corrected Hearing | Right Ear | ____ db | ____ db | ____ db | ____ db | ____ db |
| | Left Ear | db | db | db | db | db |

### SCHOOL FUNCTIONING LEVEL (SFL)

WISC-R IQ*

Verbal ____
Performance ____
Full Scale ____

*WPPSI for children under 6 years of age

### ESTIMATED LEARNING POTENTIAL (ELP)

| | Scaled Score |
|---|---|
| Verbal | ____ |
| Performance | ____ |
| Full Scale | ____ |

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# PHYSICAL DEXTERITY TASKS

**Ambulation**
Untimed. Allow 1 trial for each task.

| Tasks | Error Score (0–20) |
|---|---|
| 1. Walking on tiptoes | |
| 2. Walking on heels | |
| 3. Hopping on one foot | |
| 4. Hopping on other foot | |
| 5. Tandem walking, forward | |
| 6. Tandem walking, backward | |
| **Ambulation TOTAL** | RS |

**Equilibrium**
Untimed. Allow 1 trial.

| Task/Errors | Error Score (0–1) |
|---|---|
| 7. Counting aloud with arms raised and eyes closed | |
| *a.* Step forward before command | |
| *b.* Pause in counting | |
| *c.* Change in rate of counting | |
| *d.* Arms not parallel to floor | |
| *e.* Tremor in arms or hands | |
| *f.* Hands touching | |
| *g.* Head not upright | |
| *h.* Grimace | |
| *i.* Loss of balance | |
| *j.* Unable to count to 20 | |
| **Equilibrium TOTAL** | RS |

**Placement**
Time limit — 10 seconds per task.
Allow a second timed trial if first trial is failed.

| Tasks | Error Score (0–3) |
|---|---|
| 8. Index finger to nose, eyes open | |
| 9. Other index finger to nose, eyes open | |
| 10. Index finger to nose, eyes closed | |
| 11. Other index finger to nose, eyes closed | |
| 12. Heel to shin, eyes open | |
| 13. Other heel to shin, eyes open | |
| 14. Heel to shin, eyes closed | |
| 15. Other heel to shin, eyes closed | |
| **Placement TOTAL** | RS |

**Fine Motor Sequencing**
Time limit — 5 seconds per task.
Allow up to 3 untimed practice trials.

| Tasks | Error Score (0–2) |
|---|---|
| 16. Finger tapping, one hand | |
| 17. Finger tapping, other hand | |
| 18. Foot tapping, one foot | |
| 19. Foot tapping, other foot | |
| **Fine Motor Sequencing TOTAL** | RS |

**Finger-Tongue Dexterity**
Time limits and number of trials are given below.

| Tasks | Time Limit | Number of Trials Permitted | Error Score |
|---|---|---|---|
| 20. Touching fingertips, one hand | 5″ | 2 | (0–2) |
| 21. Touching fingertips, other hand | 5″ | 2 | (0–2) |
| 22. Opening and closing hands alternately | 10″ | 3 | (0–3) |
| 23. Tongue placement | | | |
| Left cheek | Untimed | 1 | (0–1) |
| Right cheek | Untimed | 1 | (0–1) |
| Movement | Untimed | 1 | (0–1) |
| **Finger-Tongue Dexterity TOTAL** | | | RS |

**Involuntary Movement**
Time limit — 20 seconds per task.
Allow 1 trial for each task.

| Tasks | Performance Time (0″–20″) | Error Score (0–3) |
|---|---|---|
| 24. Arms extended, eyes open | | |
| 25. Arms extended, eyes closed | | |
| 26. Standing on one foot, eyes open | | |
| 27. Standing on other foot, eyes open | | |
| 28. Standing on both feet, eyes closed | | |
| 29. Standing on both feet, tandem position, eyes closed | | |
| **Involuntary Movement TOTAL** | | RS |

# BENDER VISUAL MOTOR GESTALT TEST

Enter time required by child to complete the nine drawings: _____ minutes

| Figure | Scoring Items | Error Score (0–1) | Notes |
|---|---|---|---|
| A | 1. Distortion of shape | a<br>b | |
| | 2. Rotation | | |
| | 3. Integration | | |
| 1 | 4. Distortion of shape | | |
| | 5. Rotation | | |
| | 6. Perseveration | | |
| 2 | 7. Rotation | | |
| | 8. Integration | | |
| | 9. Perseveration | | |
| 3 | 10. Distortion of shape | | |
| | 11. Rotation | | |
| | 12. Integration | a<br>b | |
| 4 | 13. Rotation | | |
| | 14. Integration | | |
| 5 | 15. Distortion of shape | | |
| | 16. Rotation | | |
| | 17. Integration | a<br>b | |
| 6 | 18. Distortion of shape | a<br>b | |
| | 19. Integration | | |
| | 20. Perseveration | | |
| 7 | 21. Distortion of shape | a<br>b | |
| | 22. Rotation | | |
| | 23. Integration | | |
| 8 | 24. Distortion of shape | | |
| | 25. Rotation | | |
| | **Bender TOTAL** | RS | |

**Step 1.** *Enter raw scores for the Sociocultural Scales* from the cover of the Parent Interview Record Form. (Note that *raw* scores, not scaled scores, are to be used.)

| Family Size | Family Structure | Socioeconomic Status | Urban Acculturation |
|---|---|---|---|
| _____ | _____ | _____ | _____ |

**Step 2.** From Table 1 of Appendix D in the Student Assessment Manual, *enter Verbal, Performance, and Full Scale constants* for the child's ethnic group.

**Step 3.** From Table 2, 3, or 4 (depending on the child's ethnic group), *enter Verbal, Performance, and Full Scale converted scores* for:

Family Size

Family Structure

Socioeconomic Status

Urban Acculturation

**Step 4.** *Sum the Verbal, Performance, and Full Scale constants and converted scores derived in Steps 2 and 3.* (Note that Family Size converted scores are negative in sign.) The resulting sums are predicted mean WISC-R* IQs for the child's sociocultural group.

**Step 5.** *Enter WISC-R IQs* from the cover of this record form.

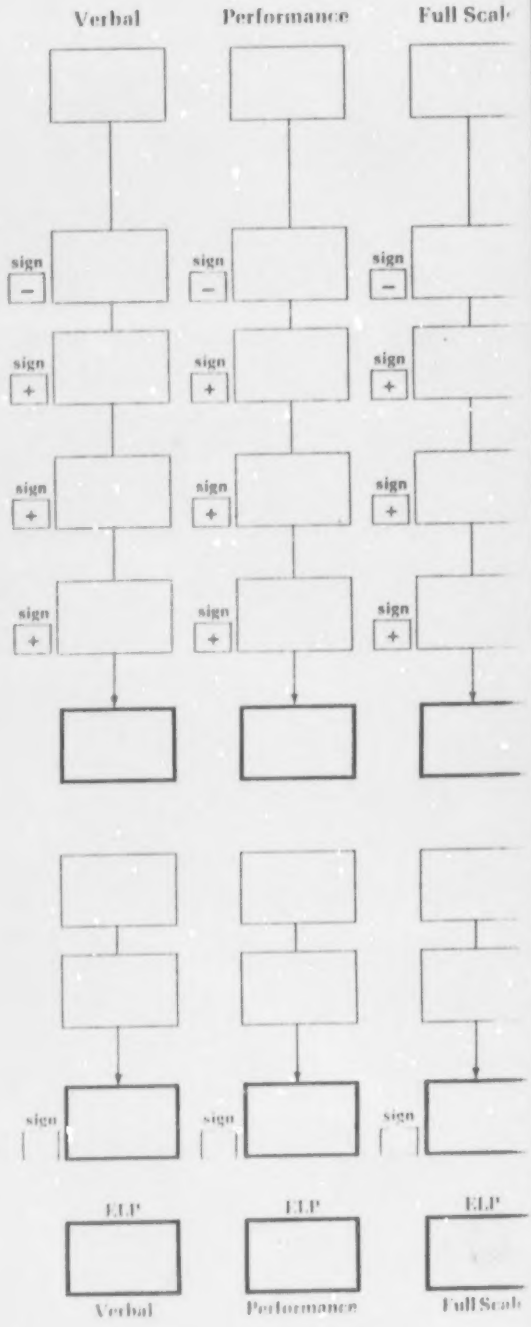
**Step 6.** *Enter the sums obtained in Step 4* unless they exceed 100, in which case enter them as 100.

**Step 7.** *Subtract the values for Step 6 from those for Step 5*, indicating appropriate signs (+ or −) for differences.

**Step 8.** *Enter ELP scaled scores.*

If the value in Step 4 is less than 100, *use Table 5 to convert the difference score obtained in Step 7 to an ELP scaled score.*

If the value in Step 4 equals or exceeds 100, *the ELP scaled score is the sum of the Step 6 and Step 7 values* and is equal to the WISC-R IQ shown in Step 5.




*WPPSI for children under 6 years of age.

# APPENDIX C

## SOMPA PARENT INTERVIEW RECORD FORM

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# SOMPA

## System of Multicultural Pluralistic Assessment

Jane R. Mercer • June F. Lewis

# Parent Interview Record Form

**Child's Name** _____ (Last / First / Middle) **Sex** _____ **Age** _____ (Years / Months)

**Home Address** _____ (Street / City / State / Zip Code)

**Names of Parents** _____ (Father / Mother)

**School** _____ **Grade** _____

**Name of Person Interviewed** _____ **Location of Interview** _____

**Interviewed by** _____ **Language Used in Interview** _____

### CHILD'S ETHNIC GROUP

___ Black
___ Hispanic
___ White
___ Other (specify: _____)

### CHILD'S AGE

| | Year | Month | Day |
|---|---|---|---|
| Date of Interview | | | |
| Date of Birth | | | |
| Age at Interview | | | |

### SOCIOCULTURAL SCALES

| Scale | Raw Score | Scaled Score* Own Ethnic Group | Scaled Score* School Culture |
|---|---|---|---|
| Family Size | | | |
| Family Structure | | | |
| Socioeconomic Status | | | |
| Urban Acculturation | | | |

* If local norms are used, specify: _____

### HEALTH HISTORY INVENTORIES

| Inventory | DK Score* | Raw Score |
|---|---|---|
| Prenatal/Postnatal | (4) | |
| Trauma | (3) | |
| Disease and Illness | (5) | |
| Vision | (3) | |
| Hearing | (1) | |

* Do not profile an inventory score if the DK score equals or exceeds the value shown in parentheses.

### ADAPTIVE BEHAVIOR INVENTORY FOR CHILDREN (ABIC)

| Scale | Raw Score* | Scaled Score |
|---|---|---|
| Family (F) | | |
| Community (C) | | |
| Peer Relations (P) | | |
| Nonacademic School Roles (S) | | |
| Earner/Consumer (E) | | |
| Self-Maintenance (M) | | |
| Sum | | |
| ABIC Average Scaled Score (Sum ÷ 6) | | |

V _____ (4) N _____ (30) DK _____ (9)

* Do not compute scores for the six ABIC scales if the V, N, or DK score equals or exceeds the value shown in parentheses.

NOTES

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**Before asking the questions, explain the purpose of the interview by saying:**

As you know, (name of school or agency) would like to learn more about (child's name) so that a good educational program can be planned for him/her. For example, we need to know what kinds of things _____ does at home and we need to know something about his/her health history. The questions that I am going to ask you take about an hour. Your answers will be kept confidential. Every question is important and you should try to answer all of them. However, if there is a question that you are unable to answer or don't wish to answer, please tell me.

All right, if you are ready, let's begin.

### Family Size Scale

| Questions | Score |
|---|---|
| 1. *a* How many full brothers and sisters does _____ have?<br>_____ brothers and sisters | *a* ____ |
| *b* How many persons live in the household, including _____ and yourself?<br>_____ persons | *b* ____ |
| *a* + *b* | ____ × 1 = ☐ |

**Family Size Scale TOTAL** RS ☐

### Family Structure Scale

| Questions | Use answers to questions 2–4 to answer *a*–*e* below | Score |
|---|---|---|
| 2. What relation are you to _____?<br>____ biological mother<br>____ biological father<br>____ other (specify: _____) | *a.* Is respondent biological mother or father of child?<br>0 no 1 yes | *a* ____ |
| | *b.* Is child biological son or daughter of head of household?<br>0 no 1 yes | *b* ____ |
| 3. What relation are you to the head of the household?<br>____ spouse (wife or husband)<br>____ respondent is head of household<br>____ other (specify: _____) | *Parent-Child Relationship Factor* *a* + *b* | ____ × 3 = ☐ |
| | *c.* Is mother or mother substitute living with spouse?<br>0 no 1 yes | *c* ____ |
| 4. What is _____'s relation to the head of the household?<br>____ biological son or daughter<br>____ other (specify: _____) | *d.* Is head of household male?<br>0 no 1 yes | *d* ____ |
| | *e.* Does child live with both biological parents?<br>0 no 1 yes | *e* ____ |
| | *Marital Status Factor* *c* + *d* + *e* | ____ × 4 = ☐ |

**Family Structure Scale TOTAL** RS ☐

### Socioeconomic Status Scale

| Questions | Use answers to questions 5–7 to answer *a*–*c* below | Score |
|---|---|---|
| 5. Does the head of the household help support the family by working?<br>____ no ____ yes If yes, ask:<br>Would you please describe the kind of work he/she does?<br>_____<br>_____ | *a.* Do wages earned by head of household provide most of the family income?<br>0 no 1 yes | *a* ____ |
| | *b.* Occupation of head of household?<br>_____<br>_____ | *b* ____ |
| 6. What is the chief source of income for the family?<br>____ wages of head of household<br>____ other (specify: _____) | *c.* Does family depend on public funds for support?<br>0 family supported entirely by public funds<br>1 family supported in part by public funds<br>2 family receives no support from public funds | *c* ____ |
| 7. Does the family have any other sources of income?<br>____ no<br>____ yes (specify: _____) | *a* + *b* + *c* | ____ × 1 = ☐ |

**Socioeconomic Status Scale TOTAL** RS ☐

| Questions | Score |
|---|---|
| 8. Now I'm going to read three statements to you. After each statement, please tell me whether you agree or disagree with what it says. | |
| a. Here is the first statement: When people are born, the success or failure that they are going to have is already determined, so they might as well accept it. Do you agree or disagree with this? **0** agree **1** disagree | a ____ |
| b. Here is the second statement: Nowadays a person has to live pretty much for today and let tomorrow take care of itself. Do you agree or disagree with this? **0** agree **1** disagree | b ____ |
| c. Here is the last statement: Planning only makes a person unhappy since plans hardly ever work out. Do you agree or disagree with this? **0** agree **1** disagree | c ____ |
| *Sense of Efficacy Factor* a + b + c | ____ × 2 = ☐ |
| 9. a. Some people belong to many organizations while others do not. About how often do you go to PTA or other meetings or special events at ____'s school? **2** a few times a month, **1** a few times a year, or **0** never? | a ____ |
| b. About how often do you go to the meetings of a church or religious group? **2** a few times a month, **1** a few times a year, or **0** never? | b ____ |
| c. About how often do you go to the meetings of neighborhood improvement or community action groups, not counting church or religious groups? **2** a few times a month, **1** a few times a year, or **0** never? | c ____ |
| d. About how often do you go to the get togethers of social groups where people meet because they enjoy doing things together, not counting church or religious groups? **2** a few times a month, **1** a few times a year, or **0** never? | d ____ |
| *Community Participation Factor* a + b + c + d | ____ × 2 = ☐ |
| Column 1 Subtotal | RS |

| Questions | Score |
|---|---|
| 10. a. What was the highest grade in school that you (mother or mother substitute) completed? ____grade | a ____ |
| b. What was the highest grade in school completed by the head of the household? ____grade | b ____ |
| c. Where did you (mother or mother substitute) spend most of your childhood? _____ City or Town _____ State or Foreign Country ____moved constantly **If place is unfamiliar, ask:** How large a place was that? _____ | c ____ |
| d. Where did the head of the household spend most of his/her childhood? _____ City or Town _____ State or Foreign Country ____moved constantly **If place is unfamiliar, ask:** How large a place was that? _____ | d ____ |
| e. (Rating of respondent's English usage) | e ____ |
| *Anglicization Factor* a + b + c + d + e | ____ × 6 = ☐ |
| 11. a. (Population of place where mother or mother substitute spent childhood—from question 10c) | a ____ |
| b. (Population of place where head of household spent childhood—from question 10d) | b ____ |
| *Urbanization Factor* a + b | ____ × 1 = ☐ |
| Column 2 Subtotal | RS |
| Column 1 Subtotal | RS |
| **Urban Acculturation Scale TOTAL** | RS |

**After asking the questions on the Sociocultural Scales, turn to page 8 of the record form for the ABIC.**

**After asking the ABIC questions, introduce the Health History Inventories by saying:**

Now I am going to ask you some questions about _____'s health. Would you please think back to when you were pregnant with _____.

## Prenatal/Postnatal Inventory

| Questions | Score |
|---|---|
| 1. How often did you see a doctor while you were pregnant with _____?<br>**0** regularly, **1** a few times, or **2** not at all | 1 ☐ |
| 2. Were you sick or did you have any complications while you were pregnant with _____?<br>____no ____yes **If yes, ask:**<br>What kind of trouble did you have?<br>_____<br>_____ | 2 ☐ |
| 3. Did you have measles or any other childhood disease like that while you were carrying _____?<br>____no ____yes **If yes, ask:**<br>What was it you had?<br>_____<br>_____ | 3 ☐ |
| 4. Did you have any trouble giving birth to _____?<br>____no ____yes **If yes, ask:**<br>What was the trouble?<br>_____<br>_____ | 4 ☐ |
| 5. Was _____ born earlier than he/she was expected?<br>____no ____yes **If yes, ask:**<br>How many weeks early was _____ born?<br>_____weeks | 5 ☐ |
| 6. How much did _____ weigh when he/she was born?<br>_____lbs _____oz | 6 ☐ |
| Column 1 Subtotal | DK / RS |

| Questions | Score |
|---|---|
| 7. *a.* Was there anything unusual or was there anything wrong with _____ when he/she was born?<br>**0** no **1** yes **If yes, ask:**<br>*b.* What was wrong?<br>_____<br>_____<br>*a + b* | *a* ____<br>*b* ____<br>7 ☐ |
| 8. *a.* Was _____ born in a hospital?<br>**1** no **0** yes **If yes, ask:**<br>*b.* How long did _____ stay in the hospital after he/she was born?<br>_____days<br>*c.* Was _____ placed in an incubator or oxygen tent?<br>**0** no **1** yes<br>*a + b + c* | *a* ____<br>*b* ____<br>*c* ____<br>8 ☐ |
| 9. Was _____ an Rh baby?<br>**0** no **1** yes | 9 ☐ |
| 10. *a.* Did _____ have any illness or anything wrong with him/her during his/her first year?<br>**0** no **1** yes **If yes, ask:**<br>*b.* Did a doctor see _____ about this?<br>**0** no **1** yes<br>*c.* What was the illness or what was wrong?<br>_____<br>_____<br>*a + b + c* | *a* ____<br>*b* ____<br>*c* ____<br>10 ☐ |
| Column 2 Subtotal | DK / RS |
| Column 1 Subtotal | DK / RS |
| **Prenatal/Postnatal Inventory TOTAL** | **DK / RS** |

| Questions | Score |
|---|---|
| 11. a. Has _____ ever had a temperature of 104 degrees or higher for more than a few hours? 0 no 1 yes If yes, ask: | a ____ |
| b. How long was it before the fever broke? _____hours | b ____ |
| c. Did a doctor see _____ about this? 0 no 1 yes If yes, ask: | c ____ |
| d. What did the doctor say was the matter? _____ _____ | d ____ |
| e. Did _____ go to a hospital because of the fever? 0 no 1 yes If yes, ask: | e ____ |
| f. How long was _____ in the hospital? _____days | f ____ |
| g. How long was it from the time the fever started until _____ was recovered and able to go to school or play as usual? _____days | g ____ |
| $a + b + c + d + e + f + g$ | 11 ☐ |
| 12. a. Has _____ ever been knocked unconscious? 0 no 1 yes If yes, ask: | a ____ |
| b. How long was _____ unconscious? _____hours | b ____ |
| c. How long was it before _____ was recovered and able to go to school or play as usual? _____days | c ____ |
| $a + b + c$ | 12 ☐ |
| 13. a. Has _____ ever been in a coma or "out of his/her head" with some illness or from some other condition? 0 no 1 yes If yes, ask: | a ____ |
| b. How long was _____ in a coma? _____days | b ____ |
| c. Did a doctor see _____ about this? 0 no 1 yes If yes, ask: | c ____ |
| d. What did the doctor say was the matter? _____ _____ | d ____ |
| e. Did _____ go to a hospital for this condition? 0 no 1 yes If yes, ask: | e ____ |
| f. How long was _____ in the hospital? _____days | f ____ |
| g. How long was it from the time the coma started until _____ was recovered and able to go to school or play as usual? _____ days | g ____ |
| $a + b + c + d + e + f + g$ | 13 ☐ |
| Column 1 Subtotal | DK RS |

| Questions | Score |
|---|---|
| 14. a. Has _____ ever had an accident or injury that troubled him/her quite a bit physically? 0 no 1 yes If yes, ask: | a ____ |
| b. Did a doctor see _____ about this? 0 no 1 yes If yes, ask: | b ____ |
| c. What did the doctor say was the matter? _____ _____ | c ____ |
| d. Did _____ go to a hospital to get treatment for the accident or injury? 0 no 1 yes If yes, ask: | d ____ |
| e. How long was _____ in the hospital? _____days | e ____ |
| f. How long was it from the time of the accident or injury until _____ was recovered and able to go to school or play as usual? _____days | f ____ |
| $a + b + c + d + e + f$ | 14 ☐ |
| 15. a. Has _____ ever had any kind of operation? 0 no 1 yes If yes, ask: | a ____ |
| b. What was the operation for? _____ _____ | b ____ |
| c. Did _____ go to a hospital for this operation? 0 no 1 yes If yes, ask: | c ____ |
| d. How long was _____ in the hospital? _____days | d ____ |
| e. How long was it from the time of the operation until _____ was recovered and able to go to school or play as usual? _____days | e ____ |
| $a + b + c + d + e$ | 15 ☐ |
| 16. a. Has _____ ever been to a hospital for any other sickness or trouble you have not already told me about? 0 no 1 yes If yes, ask: | a ____ |
| b. How long was _____ in the hospital? _____days | b ____ |
| c. How long was it from the time the sickness or trouble started until _____ was recovered and able to go to school or play as usual? _____days | c ____ |
| $a + b + c$ | 16 ☐ |
| Column 2 Subtotal | DK RS |
| Column 1 Subtotal | DK RS |
| **Trauma Inventory TOTAL** | **DK RS** |

| Questions | Score |
|---|---|
| 17. *a* Does _____ take any kind of medicine or pills regularly for some condition, not counting vitamins?<br>**0** no **1** yes **If yes, ask:** | *a* ___ |
| *b* Did a doctor say that _____ should take this medicine?<br>**0** no **1** yes | *b* ___ |
| *c* How many weeks has _____ been taking this medicine?<br>_____ weeks | *c* ___ |
| *d* What is the medicine for?<br>_____<br>_____ | *d* ___ |
| *a* + *b* + *c* + *d* | 17 ☐ |
| 18. *a* Has _____ ever had heart trouble?<br>**0** no **1** yes **If yes, ask:** | *a* ___ |
| *b* How much does this condition interfere with _____'s activities? Is there<br>**2** considerable limitation, **1** some limitation, or **0** none at all? | *b* ___ |
| *c* How many days is he/she usually absent from school during a month because of heart trouble?<br>_____ days | *c* ___ |
| *a* + *b* + *c* | 18 ☐ |
| 19. *a* Has _____ ever had kidney trouble?<br>**0** no **1** yes **If yes, ask:** | *a* ___ |
| *b* How much does this condition interfere with _____'s activities? Is there<br>**2** considerable limitation, **1** some limitation, or **0** none at all? | *b* ___ |
| *c* How many days is he/she usually absent from school during a month because of kidney trouble?<br>_____ days | *c* ___ |
| *a* + *b* + *c* | 19 ☐ |
| 20. *a* Has _____ ever had diabetes?<br>**0** no **1** yes **If yes, ask:** | *a* ___ |
| *b* How much does this condition interfere with _____'s activities? Is there<br>**2** considerable limitation, **1** some limitation, or **0** none at all? | *b* ___ |
| *c* How many days is he/she usually absent from school during a month because of diabetes?<br>_____ days | *c* ___ |
| *a* + *b* + *c* | 20 ☐ |
| 21. *a* Has _____ ever had cerebral palsy?<br>**0** no **1** yes **If yes, ask:** | *a* ___ |
| *b* How much does this condition interfere with _____'s activities? Is there<br>**2** considerable limitation, **1** some limitation, or **0** none at all? | *b* ___ |
| *c* How many days is he/she usually absent from school during a month because of cerebral palsy?<br>_____ days | *c* ___ |
| *a* + *b* + *c* | 21 ☐ |
| Column 1 Subtotal | DK RS |

| Questions | Score |
|---|---|
| 22. *a* Has _____ had frequent colds or coughs?<br>**0** no **1** yes **If yes, ask:** | *a* ___ |
| *b* How much does this condition interfere with _____'s activities? Is there<br>**2** considerable limitation, **1** some limitation, or **0** none at all? | *b* ___ |
| *c* How many days is he/she usually absent from school during a month because of colds or coughs?<br>_____ days | *c* ___ |
| *a* + *b* + *c* | 22 ☐ |
| 23. *a* Has _____ ever had red measles, also called two-week measles or rubeola?<br>**0** no **1** yes **If yes, ask:** | *a* ___ |
| *b* Was _____ **2** very sick, **1** fairly sick, or **0** just slightly sick with measles? | *b* ___ |
| *c* Did the illness leave any aftereffects?<br>**0** no **1** yes | *c* ___ |
| *a* + *b* + *c* | 23 ☐ |
| 24. *a* Has _____ ever had scarlet fever?<br>**0** no **1** yes **If yes, ask:** | *a* ___ |
| *b* Was _____ **2** very sick, **1** fairly sick, or **0** just slightly sick with scarlet fever? | *b* ___ |
| *c* Did the illness leave any aftereffects?<br>**0** no **1** yes | *c* ___ |
| *a* + *b* + *c* | 24 ☐ |
| 25. *a* Has _____ ever had rheumatic fever?<br>**0** no **1** yes **If yes, ask:** | *a* ___ |
| *b* Was _____ **2** very sick, **1** fairly sick, or **0** just slightly sick with rheumatic fever? | *b* ___ |
| *c* Did the illness leave any aftereffects?<br>**0** no **1** yes | *c* ___ |
| *a* + *b* + *c* | 25 ☐ |
| 26. *a* Has _____ ever had polio?<br>**0** no **1** yes **If yes, ask:** | *a* ___ |
| *b* Was _____ **2** very sick, **1** fairly sick, or **0** just slightly sick with polio? | *b* ___ |
| *c* Did the illness leave any aftereffects?<br>**0** no **1** yes | *c* ___ |
| *a* + *b* + *c* | 26 ☐ |
| 27. *a* Has _____ ever had diphtheria?<br>**0** no **1** yes **If yes, ask:** | *a* ___ |
| *b* Was _____ **2** very sick, **1** fairly sick, or **0** just slightly sick with diphtheria? | *b* ___ |
| *c* Did the illness leave any aftereffects?<br>**0** no **1** yes | *c* ___ |
| *a* + *b* + *c* | 27 ☐ |
| 28. *a* Has _____ ever had meningitis or sleeping sickness?<br>**0** no **1** yes **If yes, ask:** | *a* ___ |
| *b* Was _____ **2** very sick, **1** fairly sick, or **0** just slightly sick with meningitis or sleeping sickness? | *b* ___ |
| *c* Did the illness leave any aftereffects?<br>**0** no **1** yes | *c* ___ |
| *a* + *b* + *c* | 28 ☐ |
| Column 2 Subtotal | DK RS |

## Disease and Illness Inventory *(continued)*

| Questions | Score |
|---|---|
| 29. *a* Has _____ ever had tuberculosis?<br>**0** no **1** yes **If yes, ask:**<br>*b* Was _____ **2** very sick, **1** fairly sick, or **0** just slightly sick with tuberculosis?<br>*c* Did the illness leave any aftereffects?<br>**0** no **1** yes<br>*a* + *b* + *c* | *a* ____<br>*b* ____<br>*c* ____<br>29 ☐ |
| 30. *a* Has _____ ever had whooping cough?<br>**0** no **1** yes **If yes, ask:**<br>*b* Was _____ **2** very sick, **1** fairly sick, or **0** just slightly sick with whooping cough?<br>*c* Did the illness leave any aftereffects?<br>**0** no **1** yes<br>*a* + *b* + *c* | *a* ____<br>*b* ____<br>*c* ____<br>30 ☐ |
| 31. *a* Has _____ ever had pneumonia?<br>**0** no **1** yes **If yes, ask:**<br>*b* Was _____ **2** very sick, **1** fairly sick, or **0** just slightly sick with pneumonia?<br>*c* Did the illness leave any aftereffects?<br>**0** no **1** yes<br>*a* + *b* + *c* | *a* ____<br>*b* ____<br>*c* ____<br>31 ☐ |
| 32. *a* Has _____ ever had an epileptic seizure, a convulsion, or a fit?<br>**0** no **1** yes **If yes, ask:**<br>*b* Does _____ still have seizures or convulsions?<br>**0** no **1** yes<br>*c* Was or is he/she on medication?<br>**0** no **1** yes<br>*d* How much does this condition interfere with _____'s activities? Is there **2** considerable limitation, **1** some limitation, or **0** none at all?<br>*a* + *b* + *c* + *d* | *a* ____<br>*b* ____<br>*c* ____<br>*d* ____<br>32 ☐ |
| 33. *a* Has _____ ever had any other sickness that I haven't mentioned?<br>**0** no **1** yes **If yes, ask:**<br>*b* Was _____ **2** very sick, **1** fairly sick, or **0** just slightly sick with this illness?<br>*c* Did the illness leave any aftereffects?<br>**0** no **1** yes<br>*a* + *b* + *c* | *a* ____<br>*b* ____<br>*c* ____<br>33 ☐ |
| 34. As you think about _____'s health while he/she has been growing up, would you say that he/she has been sick<br>**2** a lot of the time, **1** fairly often, or **0** not much at all? | 34 ☐ |
| **Column 3 Subtotal** | DK ☐ RS ☐ |
| **Column 2 Subtotal** | DK ☐ RS ☐ |
| **Column 1 Subtotal** | DK ☐ RS ☐ |
| **Disease and Illness Inventory TOTAL** | DK ☐ RS ☐ |

## Vision Inventory

| Questions | Score |
|---|---|
| 35. Has _____ ever had an operation on his/her eyes?<br>____no ____yes **If yes, ask:**<br>What was the operation for?<br>_____<br>* Any Critical Response receives a score of 4 | 35 ☐* |
| 36. *a* Does _____ wear glasses or contact lenses?<br>**0** no **1** yes **If yes, ask:**<br>*b* Does he/she wear them<br>**0** some of the time, or **1** all of the time?<br>*c* Does he/she also use a magnifying glass to read better?<br>**0** no **1** yes<br>*d* Does _____ wear bifocals?<br>**0** no **1** yes<br>*a* + *b* + *c* + *d* | *a* ____<br>*b* ____<br>*c* ____<br>*d* ____<br>36 ☐ |
| 37. Do _____'s eyelids often become red and swollen?<br>**0** no **1** yes | 37 ☐ |
| 38. Do _____'s eyes often water?<br>**0** no **1** yes | 38 ☐ |
| 39. Are _____'s eyes often bloodshot or do they look pink?<br>**0** no **1** yes | 39 ☐ |
| 40. Does _____ ever say that his/her eyes burn or itch?<br>**0** no **1** yes | 40 ☐ |
| 41. Does _____ blink or rub his/her eyes more than is usual?<br>**0** no **1** yes | 41 ☐ |
| 42. Does _____ sometimes close or cover one eye or hold his/her head to one side while reading or watching TV?<br>**0** no **1** yes | 42 ☐ |
| **Vision Inventory TOTAL** | DK ☐ RS ☐ |

## Hearing Inventory

| Questions | Score |
|---|---|
| 43. Has _____ ever had an operation on his/her ears?<br>**0** no **1** yes | 43 ☐ |
| 44. Does _____ have trouble locating the source of sounds?<br>**0** no **1** yes | 44 ☐ |
| 45. Does _____ wear a hearing aid?<br>**0** no **1** yes | 45 ☐ |
| **Hearing Inventory TOTAL** | DK ☐ RS ☐ |

**Then say:**
Well, that finishes the interview. Let me check quickly to make certain that we have covered everything.

**After checking, say:**
Thank you very much for your time.

# ADAPTIVE BEHAVIOR INVENTORY FOR CHILDREN (ABIC)

*(The ABIC questions are on pages 35–55 of the Parent Interview Manual.)*

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For each question asked, enter 0, 1, 2, N (No Opportunity or Not Allowed), or DK (Don't Know) in the answer space.

First, ask questions 1 through 35. Next, find the starting-point question appropriate for the age of the child. (Starting-point questions are marked with arrows.)

TO LOCATE BASELINE: Work backward from the starting-point question until there are 8 consecutive 1, 2, or DK responses not interrupted by a 0 or N. (Veracity questions, indicated by circles, are not included.)

TO LOCATE CEILING: From the starting-point question, work forward until there are 8 consecutive 0 or N responses not interrupted by a 1, 2, or DK. (Veracity questions, indicated by circles, are not included.)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 26 | 51 | 76 | 101 | 126 ○ | 151 | 176 | 201 | 226 |
| 2 | 27 | 52 | 77 | 102 ○ | 127 | 152 | 177 | 202 ○ | 227 |
| 3 | 28 | 53 | 78 ○ | 103 | 128 | 153 | 178 ○ | 11 203 | 228 |
| 4 | 29 | 54 | 79 | 104 | 129 | 154 | 179 | 204 | 229 |
| 5 | 30 | 55 | 80 | 105 | 130 | 155 | 10 180 | 205 | 230 |
| 6 | 31 | 56 | 81 | 106 | 131 | 156 | 181 | 206 | 231 |
| 7 | 32 ○ | 57 | 82 | 107 | 132 | 157 ○ | 182 | 207 | 232 |
| 8 ○ | 33 | 58 | 83 | 108 | 133 ○ | 158 | 183 | 208 | 233 |
| 9 | 34 | 59 | 84 | 109 | 134 | 159 | 184 | 209 | 234 |
| 10 | 35 | 60 | 85 | 110 ○ | 135 | 160 | 185 | 210 ○ | 235 |
| 11 | 36 | 61 | 86 ○ | 111 | 136 | 161 | 186 ○ | 211 | 236 |
| 12 | 37 | 62 | 87 | 112 | 137 | 162 | 187 | 212 | 237 |
| 13 | 38 | 63 | 88 | 113 | 138 | 163 | 188 | 213 | 238 |
| 14 | 39 | 64 | 89 | 114 | 139 | 164 ○ | 189 | 214 | 239 |
| 15 | 40 | 65 | 90 | 115 | 140 | 9 165 | 190 | 215 | 240 |
| 16 ○ | 41 | 66 | 91 | 116 | 141 ○ | 166 | 191 | 216 | 241 |
| 17 | 42 | 67 | 92 | 117 | 8 142 | 167 | 192 | 217 ○ | 242 |
| 18 | 43 | 68 | 93 | 118 ○ | 143 | 168 | 193 | 218 | |
| 19 | 44 | 69 | 94 ○ | 119 | 144 | 169 | 194 ○ | 219 | |
| 20 | 45 | 70 | 95 | 7 120 | 145 | 170 | 195 | 220 | |
| 21 | 46 | 71 | 6 96 | 121 | 146 | 171 ○ | 196 | 221 | |
| 22 | 47 | 72 | 97 | 122 | 147 | 172 | 197 | 222 | |
| 23 | 48 | 73 | 98 | 123 | 148 | 173 | 198 | 223 | |
| 24 ○ | 49 | 74 | 99 | 124 | 149 ○ | 174 | 199 | 224 | |
| 25 | 50 | 5 75 | 100 | 125 | 150 | 175 | 200 | 225 ○ | |

After asking the ABIC questions, turn to page 4 of the record form for the Health History Inventories.

| V | N | DK |
|---|---|---|
| | | |

Discontinue scoring if any of the following critical values are obtained:
V 4 or more N 30 or more DK 9 or more

| | Family F | Community C | Peer Relations P | Nonacademic School Roles S | Learner/Consumer E | Self-Maintenance M |
|---|---|---|---|---|---|---|
| No. of 2's: | ___ × 2 = ___ | ___ × 2 = ___ | ___ × 2 = ___ | ___ × 2 = ___ | ___ × 2 = ___ | ___ × 2 = ___ |
| No. of 1's and DK's: | ___ × 1 = ___ | ___ × 1 = ___ | ___ × 1 = ___ | ___ × 1 = ___ | ___ × 1 = ___ | ___ × 1 = ___ |
| Total: | RS ___ | RS ___ | RS ___ | RS ___ | RS ___ | RS ___ |

# APPENDIX D

## SOMPA PUPIL PLACEMENT DATA

SOMPA PUPIL PLACEMENT DATA

Card # 1 (1)

PART ONE

Case # _____ (2-5)

1. School Year

_____ - _____ (6-7)

2. Type of Program (circle one)

1. Regular - Full-Time
2. Special class - Full-time (LIFT - severely handicapped)
3. Regular program with supportive services or extra help listed below (circle number of each one received below) (8)

PART TWO - Type of Service Received (if question two is answered #3, circle below each service received by the child)

Supportive Services

1. LIF-E _____
2. LIF-T _____
3. EH: Learning Disability _____
4. EH: Learning Lab _____
5. Aurally Handicapped _____
6. Physically Handicapped _____
7. Visually Handicapped _____
8. Multiply Handicapped _____
9. Language/Speech Therapy _____
10. Occupational Therapy _____
11. Physical Therapy _____
12. Counseling (Psychologists & Master of Social Workers only) _____
13. Resource/Monitoring only _____

Extra Help Services (not administered by special education)

14. Remedial Reading _____
15. Remedial Math _____
16. Title 1 Reading _____
17. Oral Language Development (Title I) _____
18. Adaptive P.E. _____
19. Bilingual-Bicultural Program _____
20. Other _____
21. Other _____

PART THREE - Amount of Each Service (for each service circled above, complete one of the following sections)

Section A. Name of Service circled on p. 1 _____ _____ (30-31)

| SUBJECT | MINUTES/DAY | DAYS/WEEK |
|---|---|---|
| Reading | _____ (32-34) | _____ (35-37) |
| Math | _____ (38-40) | _____ (41-43) |
| Science | _____ (44-46) | _____ (47-49) |
| Social Studies | _____ (50-52) | _____ (53-55) |
| Music | _____ (56-58) | _____ (59-61) |
| Art | _____ (62-64) | _____ (65-67) |
| P.E. | _____ (68-70) | _____ (71-73) |
| Other (list below) _____ | _____ (74-76) | _____ (77-79) |

_____

Card # 2 (1)

Case # _____ (2-5)

Section B. Name of service circled on p. 1 _____ _____ (6-7)

| SUBJECT | MINUTES/DAY | DAYS/WEEK |
|---|---|---|
| Reading | _____ (8-10) | _____ (11-13) |
| Math | _____ (14-16) | _____ (17-19) |
| Science | _____ (20-22) | _____ (23-25) |
| Social Studies | _____ (26-28) | _____ (29-31) |
| Music | (32-34) | (35-37) |
| Art | _____ (38-40) | _____ (41-43) |
| P.E. | _____ (44-46) | _____ (47-49) |
| Other (list below) _____ | _____ (50-52) | _____ (53-55) |

_____

Section C. Name of Service circled on p. 1 _____ _____ (56-57)

| SUBJECT | MINUTES/DAY | DAYS/WEEK |
|---|---|---|
| Reading | _____ (58-60) | _____ (61-53) |
| Math | _____ (64-66) | _____ (67-59) |
| Science | _____ (70-72) | _____ (73-75) |
| Social Studies | _____ (6-8) | _____ (9-11) |
| Music | _____ (12-14) | _____ (15-17) |
| Art | _____ (18-20) | _____ (21-23) |
| P.E. | _____ (24-26) | _____ (27-29) |
| Other (list below) _____ | _____ (30-32) | _____ (33-35) |

_____

Card # _____ (1)

Case # _____ (2-5)

# APPENDIX E

## QUALITATIVE DATA

## EVALUATING SOMPA: A QUALITATIVE PERSPECTIVE

When the System of Multicultural Pluralistic Assessment (SOMPA) was developed, professionals serving exceptional children had great hopes that it would effectively assess the abilities of minority children, thus providing a means for correcting the disproportionate placement of minority children in special education classes. This section will focus on the qualitative impact of the implementation of SOMPA. What happens when the SOMPA is first used? What factors lead to its adoption? Does the SOMPA aid local school administrators and state education personnel in providing for all children in the most appropriate, least restrictive environment? Insights to these issues were provided by persons concerned with evolution of education in the Pueblo District #60 Schools of Colorado, a district that implemented the SOMPA in 1975. Pueblo's response to these issues is presented.

### Method

Data for the qualitative component of the study were obtained through a series of interviews. Interviewees were selected on the basis of their knowledge of the educational evolution and innovations with the Pueblo schools. Therefore, a number of local education agency personnel including central office administrators, principals, teachers, counselors, assessment personnel, educational specialists and curriculum specialists were questioned. The director of the Office of Civil Rights in Denver, as well as two OCR staff members who had participated in the original 1972 site visit, were interviewed. Input was also solicited and obtained from Colorado State Department of Education personnel.

## Results and Discussion

In order to present an accurate account of information obtained during the many interview sessions, discussion of major points and corollaries will follow direct quotes from the taped interviews. District #60's introduction and reaction to the SOMPA and the advantages, disadvantages, and ramifications of SOMPA will be discussed.

### Introducing the SOMPA to the LEA

> I'm sure there were people in special education who had a more comfortable feeling about it than I, whether the thing was going to work, but it seemed to please OCR, which is more evidence in my opinion of what OCR was looking for was somebody who could go out and put some things together. (sic)
>
> (LEA Central Office Administrator)

Many of the persons interviewed speculated as to the reason for the Office of Civil Rights' involvement in the District #60 schools. Lacking evidence of a clear motive for their initial site visit in 1972, we are left to guess why OCR selected Pueblo as one of ten sites throughout the nation to receive such detailed attention. Local school officials viewed their involvement with OCR as an opportunity to serve as a model district in the assessment and education of minority children. State education officials offered no explanation, while Denver OCR personnel supported the idea that their 1972 site visit was a routine compliance check to a select number of districts with high minority enrollments. No information was offered regarding the selection of the other nine LEAs which were visited by OCR at the time Pueblo hosted a visit.

LEA Changes after the Implementation of SOMPA

> I view it (multidimensional assessment) as not only helpful, but I think it's imperative. Before, we really just based our assessment on IQ and teachers' judgements and so on. A special education teacher and I basically made the decision about whether a kid was sent in that program and nobody ever really questioned too much and we didn't have much in the way of parent input. We did that, cause it was the only way that was available to use so we went ahead. We based it (placement decision) sometimes on old testing, sometimes on new testing. Now we base it on up-to-date testing and we base it on up-to-date observation. (sic)
>
> (Principal)

For many years literature in the field of school psychology and special education has pointed to the need for innovation in the assessment of minority children. Tests which were developed to be "culture-free," such as the Raven's Progressive Matrices or culture-fair such as Cattell's Culture Fair Intelligence Test and the Davis-Eells Test, generally were geared to measure only one facet of a child's abilities. Furthermore, when such tests were used in cross-cultural experiments to determine their relative validity, results were abysmal. The unknown complexities in score comparison across cultures has proven to be a major drawback in these studies since test procedures measured only phenotypic behavior, a product of interaction between the person and the environment.

Other assessment alternatives, such as the modification of existing tests through translation, the assignment of greater weight

to nonverbal portions of a test, and the variation of a test's speed/power ratio, have been explored with inconsistent results. "Culture-specific" tests, such as the Black Intelligence Test of Cultural Homogeneity, have generally been rejected since results of such an assessment are of minimal utility.

With the use of the SOMPA, school personnel gather multiple sets of information about different aspects of a child's development, abilities, and disabilities. A team composed of professionals and parents interpret the data in a holistic manner. Personnel within the District #60 schools were consonant in their comments regarding the SOMPA's new, systematic approach to the assessment of all children.

> As you know, a youngster here does have a complete staffing and will be assigned appropriately at the least restrictive level with every intention of taking the youngster to a potential in mainstreaming that he or she might have. This is not on paper, this is exactly what we do. We don't exactly think handicapped so much as of our commitment in general toward individualized education.
>
> (LEA Central Office Administrator)

Implementation of the SOMPA was cited by a number of interviewees as having placed a tool in their hands which would help them to program more appropriately for all children who are assessed.

Major Advantages in Implementing the SOMPA

> I think the greatest effect came in the program in the refinement of the assessment/staffing process. The placement process was such that it actually eliminated from the (EMR) program

youngsters who were not in fact handicapped. Borderline cases. (sic)

(SEA Administrator)

Over a decade of conceptualization and research has gone into the development of the SOMPA. Based on the results of Mercer's Riverside Study, this system was designed to ensure comprehensive, culturally nondiscriminatory assessment for Anglo, Black, and Hispanic children five to twelve years of age. It was hoped that the SOMPA would aid in the identification of children who were truly in need of special education and supportive services while excluding from such programs those children who did not need them. The preceding quote indicates that, on a qualitative level, this goal has been accomplished.

Mercer and Lewis designed the SOMPA so that medical and social information obtained on each child is accompanied by sociocultural data. The Medical Model serves as a screening instrument by highlighting previous medical problems as well as indicating current abilities to perform a number of motor tasks. The Social System Model allows assessment of the child's adaptive behavior in a variety of social settings and determination of a school functioning level. The Pluralistic Model, in which the child is compared to others from the same family size, family structure, socioeconomic status, and level of urban acculturation on a measure of ability called "estimated learning potential," assures that children are compared only to those who have had similar opportunities to learn.

I think one of the major advantages in that it (SOMPA) sort of gave us a systematic way out of our frustrations. When you get

> right down to it, I think that was our first attraction to it. Not quality, (we) didn't know anything about its quality, but we tried to find something that made sense, appeared to make sense. But I think eventually the thing that's so good about it is that it really breaks us out of the myopic ways of looking at things. Mercer's system sort of says that you can't look at kids that way. You've got to start looking at every kid in terms of what he or she can do and different ways of trying to find that out, and quit saying a kid's only alive for six hours a day while he's in school, when in fact he's alive twenty-four hours a day. (sic)
>
> (LEA Central Office Administrator)

When the SOMPA was selected for implementation in Pueblo, a risk was assumed. The SOMPA had never been field-tested. LEA administrators were aware of this fact, yet they proceeded to implement the SOMPA. Additionally, the school district's referral-to-placement paradigm was changed. Building level mini-staffings were conducted and instructional alternatives tried before a child could be referred for a comprehensive assessment. Once referred, the child was assessed by a team of professionals which included a school psychologist, a social worker, and a school nurse. As results of the SOMPA were discussed at each full staffing, multi-faceted information about the child was presented by persons who were specialists in the interpretation of data from their respective fields. Parents as well as children, when applicable, were in attendance. These persons discussed alternatives for the child's education. The assessment approach changed from an emphasis on the child's six hour school day to

a holistic approach that emphasized the child's functioning twenty-four hours a day. The "six-hour retarded child" cited in the literature is no longer so categorized in the Pueblo District #60 Schools.

Problems in Implementation of the SOMPA

> I think another change is attitudes have slowly begun to change, not changed, but slowly begun to change. I think we've always thought of the so-called normal kids, my kids, as the kids for which we've had education and the gifts and talents of the exceptional, the special education, the language deficient, although welcome to whatever it was we had to offer, probably couldn't be given, or didn't need to, didn't deserve any special treatment, and I think that whole thing is beginning to change around, I think they're sort of saying every kid is our responsibility and whatever his problems and whatever his assets, that's what they are and that's what we deal with. (sic)
>
> (LEA Central Office Administrator)

For centuries, misconceptions of the abilities as well as the inabilities of children with special needs have been held. Following the change of assessment and staffing procedures in Pueblo, educators' attitudes toward children with special needs underwent an evolution. Before the SOMPA, as previously noted, placement decisions were sometimes based on less than optimal information. In addition to providing more comprehensive information upon which to base such decisions, the introduction of SOMPA appears to have broadened many professionals' awareness of the need for a variety of educational

options for children. Now many regular educators express willingness to deal with particular children regardless of their assessment profiles. With the acceptance of responsibility for the education of these children comes the need for new skills to help educators implement the mandates of P.L. 94-142.

> We didn't quite prepare the regular classroom teacher the way they should have been prepared for a couple of reasons, time was one, money was the other and know-how was another to accommodate those kids. As a result their frustration rose, the kids' frustrations rose, the parents were unhappy, the kids were in a sheltered environment in one instance and suddenly they're no longer sheltered in the other instance. (sic)
>
> (LEA Central Office Administrator)

> Right after we started doing this, we had our high school people coming in and saying, "I just don't know what I'm going to do now. These kids are retarded; how do I teach them to read?"
>
> (LEA Special Education Administrator)

> When on the test he (a child) scores say a 70 and he doesn't qualify for the special education program, he's in limbo. What can you do with those kids? Well, those kids then go back into the regular classroom and we have to service them as best as possible. (sic)
>
> (Principal)

With the implementation of P.L. 94-142 and the application of innovations designed to assure adherence to its requirements, many children who had been in special education classes were placed in

options previously reserved for the "normal" child. This move has motivated the development of plethora of training materials to aid administrators, teachers, and paraprofessionals in making the transition of special needs children successful. Since the SOMPA was adopted, children referred for possible special education services have been given a thorough assessment; the assessment results have been utilized to determine their optimal placement(s). Since many children receive a combination of services, including time spent working on academic subjects while outside of the special education class, teachers and parents have an expressed need for exposure to new skills for working with students who have varying competencies. Teachers are asked to teach children with special needs and to work with other professionals and parents in planning individual education programs and their implementation. Teachers now interact with other school personnel not only to fulfill the primary role of instructor, but also the new role of in-house consultant. Children with special needs are now being assisted by general educators more often and more substantively while also receiving special education or extra supportive help dictated by their ability/disability profiles.

Future Trends

> I think instead of curriculum dictating to us, we may be dictating to curriculum.
>
> (Principal)

Professionals involved in the implementation of P.L. 94-142 are now facing a challenge presented by the need to fit unique persons, the children in our educational systems, into public school systems which

do not recognize individual differences once the child advances past the third grade. The battle between a systems approach to education and an individually-oriented approach is impending. Curriculum may be its battlefield.

When a child is assessed and his/her individual needs are determined, a responsive curriculum is needed to enable teachers to work with that child in the most appropriate manner. The contribution of SOMPA to the assessment of a child's needs, although psychometrically oriented, has the potential for gauging adaptive behavior and identifying gifted minority children. Even after such identification, however, a strong curriculum, sequentially arranged to cover all aspects of a child's development, must be available to aid teachers and parents in planning an individual educational program. Since many teachers are requesting help to develop teaching plans for special needs children, administrators in the Pueblo schools are hoping the SOMPA will act as a catalyst to facilitate the development of curricula.

> Do the advantages override the disadvantages? Absolutely.
>
> (LEA Central Office Administrator)

> I think when we have a few more years to look at this longitudinally, there are not going to be any disadvantages (to implementation of the SOMPA).
>
> (Counselor)

Use of the SOMPA in the Pueblo schools was an experiment. The Office of Civil Rights set the experiment in motion; the LEA has now changed from a "one special education program" district to a district

which offers a highly sophisticated referral-to-placement process and a finely delineated continuum of seventeen special education and extra help services to enable a child to be educated in the "most appropriate, least restrictive environment." Although many district personnel were guarded in their initial expectations of the impact of SOMPA, LEA personnel are, on the whole, concordant in their positive evaluations of the effects of SOMPA after two years of implementation. Comments from state education administrators and Office of Civil Rights personnel were enthusiastic and OCR personnel were additionally quick to note how well the SOMPA appears to fit the assessment guidelines of P.L. 94-142. Even with the problems involved in implementing the SOMPA which were previously noted, this system appears to offer hew hope for determining the needs of children in a culturally and racially nonbiased manner.

# Vita

Ronda Carol Talley was born in Glasgow, Kentucky, on November 21, 1951. She received her elementary and secondary education at various schools throughout Central Kentucky, completing high school in Louisville, Kentucky. In 1969, she entered Western Kentucky University and was awarded a Bachelor of Science degree in early childhood education from that institution in 1973. After graduating from Western Kentucky University, she entered the University of Louisville and taught in the Jefferson County Public Schools for three years. She received a Master of Education degree in special education (learning disabilities) and the Educational Specialist degree in administration and supervision of special education programs from the University of Louisville in 1975 and 1976, respectively. From 1976 to 1978, she has served as a learning disabilities consultant for the Seymour (Indiana) Community Schools, an associate instructor in educational psychology, a supervisor of doctoral and master's students in school psychology, and a research assistant at the Center for Innovation in Teaching the Handicapped. She has also served as a researcher in sociology at the University of California, Riverside.

During the past year, Ms. Talley has completed a school psychology internship in Washington, D.C. Ms. Talley currently is Principal Investigator of a federal research project on administrative strategies to integrate handicapped students. She also serves as a consulting editor for Behavioral Disorders, official journal of the

Council for Children with Behavior Disorders, and is a member of Phi Delta Kappa.